"A Short Introduction to the Study of Comparative Grammar (IE)" by T. Hudson Williams

Cardiff: U of Wales Press Board 1935

BBREVIATIONS, ETC.

eviations explain themselves; the following
: Ir. = Old Irish; W. = standard modern
colloquial modern Welsh as spoken in
4, &c. = fourth Century, &c. $\dot{i}$, $\dot{u}$ denote
as in E. *young* and *warm*, or W. *iechyd* and
, *uentus*. O. = old, e.g. O.L. = Old Latin;
opean; Skt. = Sanskrit.

CHAPTER I

INTRODUCTION

(i) DESCRIPTIVE, (ii) HISTORICAL, (iii) COMPARATIVE GRAMMAR

(i) GRAMMAR may be purely *descriptive*, giving an account of a language as it is or was at any stage of its existence, e.g. modern Welsh or Chinese, sixteenth-century French, literary Latin in the age of Cicero. Such a description, although it does not explain any forms by reference to the past or to any other language, is only possible because we can get general formulae and rules to group together the facts of language under general headings, e.g. the formation of plurals, verb-tenses, &c.

(ii) *Historical grammar* implies continuity and regular change in one and the same language; the speech of yesterday explains and accounts for the speech of to-day.

(iii) *Comparative grammar* brings together common features in the languages compared; however much they differ, the same general linguistic principles will be found at work, e.g. analogy and gradual phonetic change. The term is generally used to denote the study of the correspondences and divergences in the sounds, formations, vocabulary, and syntax of different languages derived from one common ancestor, e.g. French and Spanish, &c. from Latin; Welsh, Greek, and Sanskrit from an original language called Indo-European. It is found that the divergences and points of resemblance in the languages compared are regular and uniform, that is, they can be brought under a general formula, e.g. 'I.E. *s* initial before a vowel = *s* in Latin and Irish = *h* in Greek and Welsh'.

All this comparing is possible only because languages change and develop according to fixed and universal

ST. BONAVENTURE ... ST. BONAVENTURE ...

general principles, the *application* of which alone varies from place to place and age to age. Languages changed and developed in antiquity exactly as they do to-day; the principles are the same in all times and all places, from the Equator to the N. and S. Poles, from 5000 B.C. to A.D. 1935; the same principles govern the speech of Homer, Julius Caesar, Shakespeare, Signor Mussolini, Mr. Gandhi, and any modern child.

The growth of scientific linguistic study was greatly hindered by the vicious old notion, still surviving in some classical circles, that a language grew till it reached a point of perfection and then decayed and became 'corrupt'. This mistake is due, in part at least, to a confusion of *aesthetic* (or literary) and *natural* standards; 'classical' Latin is more beautiful than medieval Latin; modern Greek is not so fine as the Attic spoken by Demosthenes; but they were all subject to the same principles of growth and change. *Correctness* in speech simply means *conformity to a certain adopted standard* fixed by the community or a dominant section of it. A man speaks 'correctly' because he speaks like other people whose speech is taken as a standard. There is nothing inherently vulgar in the dropping of *h*; it is the rule in the best French and Spanish, it is excellent 'Cockney', but bad 'King's English'.

Since the principles of linguistic life are always and everywhere the same, if you wish to understand the history of ancient Greek, keep your ears open and listen to the talk around you as well as your own. The less educated the person you hear, the better for your study; get away from literary standards.

Language is essentially *social* and must be learnt by communication with one's fellows; no one is born with any language in him; but a child's inherited organs of speech make it easier for him to speak like the people around him. Language demands not only a speaker but

also a hearer; this brings a child into line and teaches him to reject forms and constructions not admitted by his fellows; he thus finds his own experiments constantly checked and regulated; he is successful when he invents 'I walked' after hearing 'I talked', but he has to discard 'I runned' which he has constructed on exactly the same principle.

PHONETIC EQUATIONS

The chief factors in the history of language are PHONETIC CHANGE and ANALOGY; the first a physical, the second a mental process not necessarily conscious. *Within certain limits of time and space, e.g.* 500–400 B.C. *at Athens, the same sounds, given the same conditions, change or suffer no change in the same way.* The concrete expression of any such concordance may be called a *phonetic equation*, but I do not think I have ever seen or heard this term used. It is better to avoid the name *phonetic law*; I find that it is misleading, as it suggests (1) conventional arrangements like man-made laws whether they deal with bridge or the close season for salmon-fishing, or (2) natural law that is not subject to limitations of time and space. Examples of phonetic equations: in early Latin *s* between vowels became *r*, e.g. *geneses* = *generis*, which may be expressed by the equation v+*s*+v = v+*r*+v; in C. 5[1] B.C. Athens v+*s*+v=v+*s*+v, i.e. intervocalic *s* remained as in ἔλυσα; in Caernarvonshire Welsh to-day final unaccented *er* of standard Welsh is pronounced *ar*, ⏑*er*=⏑*ar*, e.g. *Dydd Gwenar* 'Friday' for *Gwener*.

This phonetic change is *gradual*; Latin intervocalic *s* did not suddenly become *r*, but passed through a series of intermediate stages; *s* gradually assumed more and more voice, that is, vibration of the vocal chords as explained in the chapter on *sounds*, p. 19, until it became *z*, and in course of time *z* became *r*. In Oscan, an Italic

[1] C. 5, &c. = 5th Century, &c.

dialect closely related to Latin, the process stopped halfway, v+*s*+v = v+*z*+v, e.g. *egmazum* from an earlier *egmasom* gen. plur. of *egmo*, 'a thing', 1st declension like L. *mensa, mensārum*.[1]

The direction of phonetic change is towards greater ease of pronunciation; this may be attained by (1) assimilation, (ii) dissimilation, (iii) glides or added transition sounds.

(i) ASSIMILATION: neighbouring sounds affect one another and tend to become more like one another, e.g. the perfect participle pass. of *ago* is *actus* not *agtus*, the voiceless *t* making the voiced *g* voiceless; so too in Greek *ἄγω—ἀκτός*; Italian went a step farther and the *t* altogether assimilated the sound before it, L. *actum*=mod. It. *atto*. The root of *ζευκτός* is seen in the pres. ind. *ζεύγνυμι*, but the *τ* changed *γ* to *κ*. The change is not always expressed in writing, cf. Welsh *penbwl* and *enbyd* which we generally, except when we want to speak 'correct' and 'pure' Welsh, pronounce *pembwl, embyd*, the labial *b* turning the dental *n* into the corresponding labial *m*; cf. C.W. *Llambad*, for *Llanbedr*, E. *Lampeter*.

In all the above cases it is the second element that affects the first. We often find the first affecting the second; *ascend(o)* borrowed by Welsh became *esgynn(af)*, *ἔνεμσα* (aor. of *νέμω*) in Lesbian became *ἔνεμμα*.

(ii) DISSIMILATION: it is easier to pronounce some combinations of sounds by making them *less like* one another or dropping one of them; *l* followed by *l* with a vowel between and *r* - - - *r* are awkward sequences not pleasant to pronounce; so we get changes like the following: the suffix *-ālis* in Latin was changed to *-āris* after a preceding *l*; e.g. *militāris* for *militālis*, *lunāris* for *lunālis*, but *nauālis*, *uenālis*; *caeruleus* from *caelum*; *Parīlia* from *Palēs*; loss of *r* in *praestīgiae*, cf. *praestringo*. From *arbor(em)* we get Italian *albero*, Spanish *árbol*. French did not mind the

[1] I have marked the quantities of Latin vowels only when I wished to call attention to them.

two *r*'s and has *arbre*, just as Welsh kept them in *pererin* (*peregrīnus*), where French has *ι—r*, *pèlerin*; cf. Welsh *arall* (*r* for *l*), Greek *ἀλλήλους* for *ἀλλήλλους*; *κεφαλαργία* 'headache' from *κεφαλαλγία*; Fr. *rossignol* from *lusciniolus*; *δρύφακτος* from *δρύφρακτος*; C.W. *fannodd* to avoid *dd—dd* (*y ddannoedd*); *camdda* to avoid *camfa*. Occasionally one of two similar syllables is dropped, e.g. *εἰδωλατρία* for *εἰδωλολατρία*; W. *erledigaeth* for *erlidedigaeth*.

(iii) GLIDES AND PARASITIC SOUNDS: it is often found easier to pronounce some combinations by slipping in another sound between; e.g. we are told by the Romans themselves that *aio* was pronounced *aiio*; *eius, eiius*; E. *fear* is pronounced *feyer*, W. *gweddio gweddiio*; cf. W. *amal, cefen, athaletic*, L. *saeculum* for earlier *saeclum*, itself from *saitlom*; for *cl*=*tl* cf. W. *clawd* (*tlawd*), *clino* (*tylino*), *cenheglodd* infantile for *cenhedlodd*. For added consonants cf. C.W. *Hendri, Pendryn, wimblad*; L. *templum*=*tem-lum*; *ἀνδρός*=*ἀνρός*, *μεσημβρία*=*μεσημρία* (cf. *ἡμέρα*); Fr. *ensemble*=*insiml* (*in simul*), *tendre*=*tenrum*=*tenerum*.

Anticipation: we think of the next sound when we are pronouncing one sound and so interchange them, even when they are in different words. And some words preserve the new form; we thus get *metathesis*, a *permanent spoonerism* inside the same word. Observe your own speech; I caught myself at it the other day when I read *reversed* instead of *reserved*, and only discovered my mistake when I failed to make sense of what I was reading. Examples of metathesis: *τίκτω* for *τίτκω*, cf. *ἔτεκον*; Span. *milagro* from *miraculum*, *palabra* 'word' from *parabola*; L. *colurnus* from *corulus* 'hazel'. C.W. *balir* for *baril*=*barrel*; *ysbig*=*ysgub* 'broom'; *slywan* 'eel'=*llysŵen*; *slafan* 'scum on a pond'=*llysnafedd*. A more curious variety is seen in C.W. *gwymad* 'face'=*gwyneb* and *apad* 'answer'=*ateb*, showing an interchange of dental and labial. We get an interchange of vowel quantity in Gk. *πόλεως* for earlier *πόληος* with a retention of the earlier accent.

ANALOGY

Watch a child learning to speak; he not only imitates those about him, repeating what he hears; he also experiments and builds new forms on the model of what is said by others. He has heard only *I walked, I talked, I come, I run*; then, when occasion arises, he makes a move of his own and says *I runned, I comed* as well as the correct *I worked*; he has thus created new forms on the *analogy* of forms he knows. He soon learns to correct himself, because he finds that others do not use the forms he has created; being a social animal he drops his own peculiar creations and falls in with the practice of the majority. But there are often times when a *whole community* adopts forms created by analogy in defiance of regular phonetic development, and in course of time these come to be the only correct forms while the old forms are regarded as old-fashioned and absurd. At certain periods especially there are wholesale clearances and a clean sweep of forms that have come to be regarded as unnecessarily complex and irregular, although in reality they are strictly regular; in fact the so-called irregular verbs of a language are often the only regular ones that it has, the others have been levelled by analogy.

Analogy consists in making things that are like one another still more like one another, and so eliminating differences that are not needed in the same close grammatical group. The personal endings of a verb-tense or the case-endings of a noun serve all practical purposes, and people feel that there is no need for the other parts of the same tense or noun to differ from one another; why should they? So Old French started with phonetically regular equivalents of the pres. ind. of *amo: aim, aimes, aime, amons, amez, aiment*; but because four out of these six forms had *ai*, the remaining two were altered to *aimons, aimez*. The 1st sing. *aim* was also changed to

aime on the analogy of the other persons that had a regular *e* as their ending supported by the regular *e* in verbs like *trouble=turbulo*.

Analogy affecting forms. Current and regularly developed forms are changed to make them less apparently irregular. Examples: final I.E. *s* remained in Latin, intervocalic *s* became *r*; so the regular declension was *honōs, honōris; arbōs, arboris*, but the *r* of the other cases helped by the analogy of words like *praetor, praetōris* crept into the nom. sing. and *honor, arbor* came to be the current and correct forms. Very many Latin verbs had their pres. infin. in *-ere*; so *esse* was in popular Lat. changed to *essere*, seen in O.Fr. *estre* = *être*, Span. *ser*, It. *essere*. Julius Caesar invented a pres. part. *ens*, others created *essens* and *essentia*, a very important word in philosophy (=οὐσία). People did not know that all this time there was an old regular participle of *sum*, viz. *sons* 'guilty', *in-sons* 'not g.' The regular dat. plur. of ἀνήρ is ἀνδράσι; but we get ἄνδρεσσι in Homer (analogy of ἔπεσσι, &c.) and φυλάκεσσι instead of the regular φύλαξι. One declension affects another, cf. ἄνδροις (anal. λόγοις) in some dialects; and indeclinable nouns are declined, τέκνα, τέκνων led to δέκα, δέκων in Aeolic. Watch your own 'howlers', most of them are due to analogy, like the *dauit* for *dedit* of my own student days. In early Greek intervocalic *s* disappeared, so the σ of ἔλυσα is irregular; it was introduced on the analogy of ἔγραψα, ἔδειξα. For an example of irregular verbs regularized cf. W. *buais* for *bûm*, anal. *gwelais*. Similarity of sound often leads to similarity of inflexion; the plural of W. *ci* 'dog' is *cŵn*; so the plural of the borrowed *mwnci* 'monkey' became *mwncwn*. New systems of declension have been created by analogy, as e.g. in Modern Greek: most Greek nouns in *-os* are masculine and their gen. sing. ends in a vowel; nouns in *-a -η* are feminine and their gen. sing. ends in *-s*; so a new declension was formed to replace the classical 3rd

declension, πατέρας nom. sing., πατέρα gen. sing., but fem. μητέρα nom. sing., μητέρας gen. sing.

Analogy plays a large part in colloquial Welsh in spite of the influence which the standard language has on our daily speech. The imperative of *sefyll* 'stand' is *sefwch*; so we remove the ending of *dangos* 'show' and *agor* 'open' and say *dangwch*, *agwch* for *dangoswch*, *agorwch*.

Words that often go in pairs often affect one another: *dies*, a masc. noun, was often treated as fem. because of *nox* helped by the analogy of other 5th-declension nouns, as they are all fem. πρόσθεν, ὄπιθεν were the original forms, but the first changed the second to ὄπισθεν, helped also by ὀπίσσω Hom. for ὀπίτιω. So too ἐξ=L. *ex*, led to the formation of ἐνς = εἰς, ἐς, i.e. ἐν + ς.

Further examples of analogy: the Old French fem. of *grand* was *grand* without *e*, but it was changed to *grande* by anal. of *bonne*; the old form still survives in *grand'mère*, *grand'messe*, where the ' is not needed. The *t* of *a-t-il*, &c., is not a survival of *habet* but due to anal. of *est-il*, &c. Sometimes the new form is purely orthographical and not pronounced; e.g. sixteenth-cent. *je sçais* for *sais*, to connect it with *scio*; the *s* of *island* is an intruder (Angl.-Sax. *igland*) due to *insula*, *isle* (Fr.); Sidney has *iland* (*Apol. Poet.*, p. 4; C. U. Press ed.). Analogy is seen in the French extension of the acc. case to replace all cases, a change helped by the loss of numerous case-endings, e.g. *ami*=*amīcum* for nom. as well as acc., the O.Fr. form for the nom. was *amis*. In a few cases (O.Fr.) the nom. prevailed and was used by anal. for all cases, e.g. O.Fr. (1) *suer* nom., (2) *seror* acc., but (1) alone survived, mod. Fr. *soeur*. Sometimes both nom. and acc. lived on and were both extended to cover all cases *with difference of meaning*, as *sire* = *senior*, *seigneur* = *seniorem*; *homme* = *hominem*; but *on* = *homo* even to-day can only be used as nom. and subject of verbs.

Recomposition is a species of analogy; the form of a compound verb is affected by that of the simple verb; the simple form is restored or, occasionally, retained consciously in the compound; e.g. *sē*+*paro* should give, and in popular Latin did give (cf. Fr. *sevrer* not *severer*), *sēpero*; but the literary dialect reformed it to *sēparo*; cf. *posthabeo*) (*adhibeo*, *perfacilis*) (*difficilis*. *Decomposition* is the opposite process, the simple verb being affected by the compound; L. *pleco*, cf. πλέκω, had compounds *implico*, &c., and by analogy was changed to *plico*; so too originally *lubet* but *quodlibet*; analogy led to *libet*. L. *-ect* became, in loan-words, *-aith* in Welsh; L. *-act* became, in loan-words, *-aeth* in Welsh; *factum* would give *ffaeth*, *effectum* = *effaith*; *ffaith* is a nineteenth-cent. word coined on the analogy of *effaith*, *perffaith* to imitate the E. *fact*.

Analogy of meaning: folk-etymology changes words to make them mean something; *runagate* = *renegade*; W. *Caersalem* = *Jerusalem*, cf. Ἱεροσόλυμα; *mountebacks* = *mountebanks*; and *pierrots* which I have heard pronounced with *t* to make it mean *men who rot on the pier*.

Analogy often leads to the creation of wrong forms. For the wrong restoration of supposed correct forms cf. C.W. *defad*, *merchad*, *pryfad* 'corrected' in speech and writing to *defaid*, *merchaid*, *pryfaid*; the first of these is correct, the other two should be *merched*, *pryfed*. The *Coed Helen* estate at Caernarvon was originally *Coed Alun* and is still so called in popular speech; the name was changed to bring in the Helen legend.

Analogy is *immediate* in the change made; although there is often a struggle between the old and the new, there is no series of intermediate stages as in the passage of Latin intervocalic *s* to *r*. οἶσθα and the new οἶδας existed side by side till οἶδας prevailed; but οἶσθα itself did not go through a slow change till it became οἶδας.

Analogy often helps to extend phonetic change so that it is not always possible to draw the line between them.

E.g., in early Greek, vowel + *νς* final = vowel + *νς* before a vowel, and vowel + *ς* before a consonant. So *τὸνς ἄνδρας*, but *τὸς παῖδας*; this discrimination remained in the Cretan dialect of Gortyn. In Thessalian, by analogy, *τός* was generalized, e.g. *τὸς ἄνδρας*, while in Attic *τούς* (from *τόνς*) came to be the only correct form.

New words and inflexions are formed on the analogy of existing ones: native terminations are added to foreign loan-words and occasionally foreign terminations are added to native words, e.g. C.W. *llongwrs, prygethwrs.* The extension of an inflexion to new words is a good proof of its vitality; examples: English verbs in *-ize*, nouns in *-isation*, '*the Fordisation of industry*', '*the Locarnisation of Europe*', '*to Hitlerize Germany*'; a foreign word gets an English plural in *-s*, '*Mussolinis*', '*Eisteddfods*'. Welsh verbs in *-io, filmio, jazzio, herambonio, plymio, swancio.* French verbs in *-er* as in '*le train a stoppé*', '*il a été knockouté*', '*il était handicapé*', all in recent numbers of *Le Matin.* For new words formed on the analogy of current ones cf. Fr. *amérir* of a sea-plane 'landing' on the sea, by anal. from *atterrir.* E. *-er* to denote the agent, e.g. *wholehogger.* Analogy extends the meaning of words, e.g. W. *saethu* when a *gun* is used, not a *saeth* 'arrow'; to *ride* a bicycle. Cf. *grandson* (anal. *grandfather*); French is more logical and has *grandpère, petitfils*; so is Welsh, great-g.f. = *hendaid*, but *gorwyr.* For analogy of mutation cf. W. *y banc, dau fanc.* Analogy has even invented *new types of mutation*; W. *cig—pwys o gig, caws—cosyn o gaws* has led to *chocolet—pwys o jocolet, chaen—dwy jaen, rhois jec iddo fo*, '*cheque*', although *ch* and *j* are not Welsh sounds (here *ch* = *ch* in E. *church*).

Factors that cause and speed up linguistic change: change of diet, e.g. from hard to soft food affecting teeth and palate; change of air, draining of swamps, cutting down of forests; change of home, emigration. Influx of foreigners who try to learn the local language, especially when they lead the fashion as masters, e.g. Normans in England. Bilingualism. Mixture of related dialects in a Greek colony, among London Welsh, Bangor students, Welsh emigrants in Patagonia, &c.

DISTURBING INFLUENCES

Influences that disturb or seem to disturb regular phonetic development. Exceptions, real or apparent, to phonetic equations are due to:

1. Analogy, as discussed already.
2. Wrong or over- statement, e.g. 'Greek initial *s* = *h*', this is too sweeping (cf. *στείχω*); it should have been 'I.E. initial *s* + vowel = *h* in Greek'.
3. Borrowing from other dialects, especially when they are closely related; no Latin phonetic equations can account for the *b* in *bōs* or the *f* in *rūfus*; we know that there were in Greek many *pre-Gk.* words (*non-Gk.*), e.g. in *-νθος, ἀσάμινθος* 'bath'; for Semitic loan-words cf. *σάκκος*, and *ἄλφα, βῆτα*, &c.
4. Borrowing from literary dialects: the lit. dialect constantly affects spoken Welsh; watch a preacher; at one time he will say *ydyw*, then *ydi, darllen* and *darllan*, and if he has changed his district he will, e.g., mix up North and South Wales forms, *dyn du* and *din di, mēllt* and *mĕllt*, &c.
5. Loans made at different periods: 'new *presbyter* is but old *priest* writ large'; *bishop, episcopal*; *parish, parochial.* Note here hybrids, *unjust*, but *injustice*; *self-suggestion, auto-mobile*, and many other mixtures of different languages.
6. Resurrection of old words: L. *amoenus*; deliberate retention of, e.g., legal terms, *foedus* (*oe* in both cases for expected *ū* as in *ūnus* and *commūnis*).
7. Freak formations, deliberate abbreviations and new-made endings, words formed from the initials of several words in a name, *Coll., Lit. and Deb., Soccer, Rugger, Jaggers, brekker, prof., prep., imposs., Dora* (*Defence of Realm Act*),

Weg (a club founded by W. E. Gladstone), and war-groups now forgotten as *Wrens, Anzacs, Waacs* (*Women's Royal Naval Service, Australia and New Zealand Army Corps, Women's Army Auxiliary Corps*), *les cégétistes* (*Confédération Générale du Travail*), *gracing* = *greyhound racing*. Here we may include cowardly substitutes like E. *gosh, great Scott, by Gum*, and W. *myn diani, yr argian, diaist, daria*, &c. to avoid genuine 'swear-words'.

8. Return of native word from other languages: E. *nurse* comes from Fr. *nourrice* and has been borrowed back by the French in its English form, *la nurse*; cf. *le steeple-chase* (which English got from Fr. *chasse*); *une interview* (= *entrevue*), *le jury* (Fr. *jurée*). Idioms too come back sadly mangled. E. *to draw a picture* was adopted by us as *tynnu llun* which has occasionally been restored to English in the form *to pull a photograph*.

9. Wrong division of words that go together, especially article and noun: *an adder* for *a nadder* (W. *neidr*), *a newt* for *an ewt*, *an apron* for *a napron* (cf. *nap*), *an orange* for *a norange* (Span. *naranja*, cf. Arab. *naranj*), so too Fr. *orange* (helped by its suggestion of *or* '*gold*' as in W. *eurafal*); Fr. *lierre* for *l'ierre* (L. *hedera*). Cf. the infantile W. *rha* and *rar* for *a summer, a garden; rwy'n mynd yn d'ôl* because the child has heard *dos yn d'ôl; dewyrth i ydi hwn* for *f'ewyrth* (*ewythr*). Such forms may prevail and become accepted by the community, e.g. W. *erioed*, earlier *eiryoet* 'in his time', *eirmoet* 'in my time'; but *erioed* now means 'ever', irrespective of person.

10. Desire for correctness and hankering for derivation to be shown in the spelling, leading to learned tinkering and the creation of forms like W. *carwyf* for *caraf, ei* 'his', 'her', *ein, eich* for *i, yn, ych*, the still current pron. in spoken Welsh; *efe* (for *fe, ef, efô*) is also a literary invention. N.B. The written form often leads to a change in the spoken word, as in *ei* for *i* when we wish to speak 'Cymraeg pur'; *ei* was invented to connect it with *eius*.

11. Influence of the B.B.C. and its recommendations, e.g. *immānent* for *immănent* to keep it distinct from *imminent*. Except writing and the B.B.C. the above factors must have been at work in Indo-European itself, it had dialects and loan-words. As there are so many unexplained words in modern English and Welsh with their long literary and grammatical records, we must not expect to solve *every* etymological puzzle connected with Gk. and I.E. or any other language, *for we can never recover all the facts that produced certain results*. E.g. no amount of thinking could work back to the origin of *grog* if we did not possess the facts and know that Admiral Vernon, nicknamed *Old Grog* because he wore a *grogram* cloak (from Fr. *gros grain*), in 1740 introduced a drink which came to be called *grog* after its inventor, a temperance innovation to replace neat spirits. Consider the enormous number of words derived from proper nouns: e.g. *guillotine* introduced by Dr. Guillotin and christened *la Guillotine* as if she were his daughter. Cf. *trilby, cashmere, mackintosh, bobby and peeler* (after Sir *Robert Peel*), *boycott* (Capt. B.), *macadamize, bowdlerize, to burke discussion*, C.W. *John Roberts* (a jug to fetch beer on Saturday night after Sunday closing was introduced), '*un browning dans sa poche, il se posta au coin de la rue*' (a Browning revolver). *Keep your ears open and take notes of what you hear in the street*, and you will avoid many mistakes made in the study and the text-book.

CHAPTER II

THE INDO-EUROPEAN LANGUAGE AND ITS DAUGHTERS

A CAREFUL comparison of Sanskrit, Greek, Latin, and several other languages has led scholars to see that these are all varying forms of one ancient language that no longer exists, of which not a single text or word has been preserved. We know that the Romance languages, French,

Italian, Spanish, &c., are derived from Latin, a language of which we possess very extensive remains in the shape of literature and inscriptions. As we have no remains of the language from which Sanskrit, Greek, Latin, English, Welsh, Russian, &c., are derived, we have to reconstruct it by comparing the vocabulary, inflexions, and syntax of these daughter languages; by so doing we can explain a great many peculiarities in these languages themselves. There has been much discussion over the name which should be given to the parent language. The ideal name would be a word with but one meaning that would accurately describe the mother of certain languages spoken, say, in 1000 B.C. in certain parts of Europe and Asia. Not one of the names used to-day fulfils those conditions. The best is certainly *Indo-European*; even this has its faults; it ought to mean 'the languages of India and Europe'; but (1) there are old languages in Europe and India which do not belong to our group, i.e. have no relation to Sanskrit, Latin, Greek, &c., e.g. Basque and Finnish, and the Dravidian languages of India; (2) there are old members of our group outside Europe and India, e.g. Persian and Armenian. The term *Indo-Germanic* is still less satisfactory as it only indicates the extreme eastern and western members of the group. N.B. Celtic was not known to belong to the group when the name *Indo-Germanic* was invented, but it may still be argued that Iceland is to the west of Ireland. Worst of all is *Aryan*, as this word is rightly used to denote the languages of the Indo-Persian group; its use causes great ambiguity and it should be restricted to its proper original significance = Indo-Persian.

MEMBERS OF THE GROUP

An Indo-European language is one descended from Indo-European, e.g. modern Welsh, English, and Italian as well as ancient Greek, Sanskrit, and Latin. With the exception of Tocharic and Hittite, members of the following groups

still exist as living languages; each group started as a single language and then split up into its later constituents.

I. Indo-Persian or Indo-Iranian or Aryan.
  (*a*) Sanskrit, including the *Vedic Hymns*, some of which go back to *c.* 1500 B.C.; other cognate Indian languages (Modern Hindi, Bengali, Marathi, Gujarati, &c.).
  (*b*) Old Persian (from the sixth cent. B.C.); Avestan, the language of Zoroastrianism; others.

II. Armenian, texts beginning C. 5 A.D.

III. Albanian, texts beginning C. 14 A.D.

IV. Baltic-Slavonic.
  (*a*) Old Prussian (died C. 17 A.D.); Lithuanian and Lettish, still spoken.
  (*b*) Old Bulgarian, very important texts C. 9–C. 12 A.D.; Russian, Polish, Serbian, &c.

V. Greek, numerous dialects; the earliest Greek is to be found in Homer *c.* 850 B.C.; Modern Greek.

VI. Italic.
  (*a*) Latin, still living as Spanish, Italian, French, Roumanian, &c.
  (*b*) Oscan, the language of the Samnites; Umbrian, in Central and East Italy; numerous Oscan and Umbrian inscriptions, especially C. 2, C. 1 B.C.

VII. Celtic.
  (*a*) Gaulish, dead by C. 6 A.D. Very short inscriptions, and many names of men and places and loan-words in Latin.
  (*b*) British.
    i. Welsh, texts beginning C. 9 A.D.;
    ii. Cornish;
    iii. Breton.
  (*c*) Goidelic.
    i. Irish, texts beginning C. 5 A.D.;
    ii. Scotch-Gaelic;
    iii. Manx.

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VIII. Germanic.

i. Gothic, texts beginning C. 4 A.D.;

ii. North Germanic—Icelandic, Norwegian, &c.;

iii. West Germanic—High German, Low German, Anglo-Saxon (English), &c.

IX. In 1904 a number of texts were discovered in Chinese Turkestan (Central Asia) in a language that has been proved to be Indo-European. These documents take us back to C. 6 A.D. This language has received the name *Tocharic* (cf. *Doric, Italic*; it may be called *Tochareg* in Welsh) or *Tocharish* (cf. *Spanish, English*, &c.) or *Tocharian* (cf. *Albanian, Armenian*); the Germans call it *Tocharisch*, the French *Tokharien*. It belongs to the west I.E. group, that is, it is a *centum* language (see p. 31); like Greek, Italic, Celtic, and Germanic it did not change I.E. *k, g, gh* into sibilants (*s* sounds), whereas Indo-Persian, Armenian, Albanian, and Baltic-Slavonic went through this change at an early period. For examples of Tocharic cf. *pātar, mātar* (cf. L. *pater, māter*); *wänt* (cf. L. *uentus*); *wastsi* (cf. L. *uestis*); *sālyi* (cf. L. *sāl*); *okt* (cf. L. *octo*); *kant* (cf. L. *centum*, W. *cant*); *se* (cf. L. *sē*); *trite* (cf. L. *tertius*); *alyek* (cf. L. *alius*); *postam* (cf. L. *post*); 3rd plur. of past tenses in *-āre* (cf. L. *uēn-ēre*). See Kieckers, *Hist. lat. Gram.* I, p. 2, and p. 6 for Hittite. Tocharic had also a passive in *-r*. It had remarkable affinities with Italic and Celtic, especially the *-r* passive. P. Giles (*Camb. Anc. Hist.* II, pp. 35, 36) says that it 'bears curious resemblances to Celtic, and is not closely connected with any Indo-European language in Asia', and he refers to the conjecture that its speakers had been transported by some ruler of Asia Minor to a remote district of his dominions, as Xerxes had sent Greeks to live in Babylonia. The tribes may themselves have wandered or fought their way as far as Turkestan; we know that by C. 2 B.C. Celts had settled in Asia Minor, their name survived in the *Γαλάται* of the New Testament.

X. Hittite is also regarded as Indo-European by many scholars. At any rate inscriptions found at Boghaz Köi in Cappadocia, the capital of the great Hittite Empire (for which see the chapter by Hogarth in *Camb. Anc. Hist.* II, pp. 252–74, or the article *Hittites* in any up-to-date *Bible Dictionary*, and *Yr Hethiaid* in *Geiriadur Beiblaidd*), are written in 'a mixed language, the grammatical structure of which is predominantly Indo-Germanic, although the vocabulary is for the most part of foreign origin' (Kieckers, *Einführung in die idg. Sprachwissenschaft*, 1933, p. 15). Some scholars prefer to call this language 'Pseudo-Hittite'. The inscriptions belong to the second millennium B.C. (2000–1300 B.C.).

Hittite words: *kuiš* (L. *quis*); *adanzi* (L. *ĕdunt*); *ešzi* (L. *est*); *wadar* (*water*). Hittite had a passive in *-r*. There were other I.E. languages of which a few fragments have come down to us, e.g. Scythian, Phrygian, Macedonian, and Illyrian.

Indo-European was a highly developed language with a rich and complex vocabulary including compound verbs and nouns; it had at least eight cases formed by means of endings added to simple roots or roots extended by simple or compound suffixes; it had a large variety of pronouns and conjugated verbal tenses. It should in no way be regarded as a 'primitive' language, as it had a long history behind it, of which we can still trace some steps; if simplicity of formation is a test of 'primitiveness', then modern English and Welsh are far more 'primitive' than Indo-European.

Before the people who spoke it separated and went off in different directions, I.E. was the current language in a large area, probably in central Europe, certainly not in Asia, as was once thought; students should remember that the origin and home of I.E. must not be connected with the larger question of the origin and home of mankind and its languages. Before its speakers dispersed I.E.

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already presented differences of dialect; just as N. Wales differs from S. Wales in the pronunciation of *u*, so the western speakers of I.E. differed from the eastern section in the pronunciation of *k*, *g*, and other palatals; (see p. 31). N.B. We should never speak of the I.E. *race*, as we do not know that I.E. was spoken by people of the same blood. The name Wiros (taken from the I.E. word for 'man' seen in L. *uir*, Ir. *fer*, W. *gŵr*, E. *wergeld*, *werwolf*) is used to denote I.E.-speaking peoples with no reference to their racial origin; see P. Giles, *Camb. Anc. Hist.* II, p. 23.

Attempts have been made to connect I.E. with other families of languages, especially with Finnish-Ugrian and Semitic; but no adequate proof has been adduced; for a recent attempt see *The Classical Review*, Nov. 1933, p. 206.

It has often been suggested that some of the main groups formed a single language after their speakers detached themselves from the other Wiros. We know that Latin was one language before it split up into Italian, French, Portuguese, &c.; but there is as yet no *definite* proof that any two of the main groups I–X enumerated above (pp. 15–17) ever formed one single language apart from the others. It was once held that there was a particularly close connexion between Greek and Latin, and a Graeco-Latin language was assumed to have existed; a glance at the case-endings of the first (*a*) and second (*o*) declensions in Greek and Latin and at the endings of, e.g., the imperfect tense (active) seems to favour this view; but the resemblance is due to the fact that *we possess Greek and Latin at the same stage of development*. If we had the full declension of early Celtic nouns, we should find Latin far closer to Celtic than to Greek, and indeed there is a growing tendency to-day to assume an Italo-Celtic period when the languages that later became Latin, Oscan and Umbrian, and Irish and Welsh were still one language different from that of the other Wiros; see Meillet,

Introd., p. 43, iii, '*Dialectes italo-celtiques*', and H. Lewis, *Datbl.*, p. 9, '*Celt-Italeg*'. One of the chief arguments for this unity is found in the *-r* passive common to Italic and Celtic, cf. *curritur*, W. *rhedir*, 'men run'. But as we know now that Tocharic, Hittite, Armenian, and Phrygian had some form of *-r* passive, and as there are not enough *innovations common to Italic and Celtic*, I feel inclined to regard the Italo-Celtic unity as still 'not quite proven', but further study and new discoveries will probably settle the question.

CHAPTER III

SOUNDS

THE sounds of speech may be: (1) Non-continuous ('stops' or 'mutes'), including a complete stoppage and an interval of silence during their production. For instance, in pronouncing *p*, the sound is stopped by bringing the lips tight together, then released by opening them, while a sound like *o* or *s* can be prolonged as long as the speaker has the strength to do so. (2) Continuous, without or with the opening of the passage through the nose, e.g. *s*, *z*, *m*, *n*.

A sound may or may not be accompanied by a vibration of the vocal chords, a vibration that can be felt if one's finger is placed on the 'Adam's apple' when, e.g., *b* or *z* is pronounced; a buzzing can also be heard if one's ears are stopped when such sounds are pronounced. This is called VOICE, and sounds may be classified as *voiced* or *voiceless*.

Sounds can also be arranged according to the organs, lips, teeth, palate, &c., which have the chief share in their production, e.g. *labials*, lip-sounds that are stopped or squeezed at the lips; *dentals*, teeth-sounds; *palatals*, sounds most affected by the position of the tongue in relation to the front, middle, or back part of the roof of the mouth.

The following table does not include vowels, as these

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will be discussed afterwards; it does not give all the other sounds of any language, and the sounds included are not all found in every language. Note that an aspirate is a sound followed by *h*, e.g. classical Gk. $\phi = p+h$, not $=ph$ as in *pheasant*, but pronounced as *p* and *h* in *top-hole*. Such a combination may be heard in the emphatic pronunciation of *p* initial in Welsh, e.g. *p^{h}wy*? It should be borne in mind that no current orthography or alphabet accurately represents all the sounds of a language, the *c* of W. *ci* is quite different from that of *cŵn*, the *a* of E. *cart* is quite different from that of *can*. Phoneticians have invented a large number of symbols for scientific purposes; but these are far from including all the sounds used in daily speech.

A SELECTION OF SOUNDS

Place of Articulation	*Non-continuous*				*Continuous*			
			Aspirates				*Nasals*	
	Voice-less	*Voiced*	*Voice-less*	*Voiced*	*Voice-less*	*Voiced*	*Voice-less*	*Voiced*
Labial	p	b	ph	bh			mh	m
Labio-Dental					f	v		
Dental	t	d	th	dh	þ s, š	đ z, ž	nh	n
Front palatal	k	g	kh	gh	ch	ȝ	ngh	ng
Back palatal labialized	q^u	g^u	q^{u}h	g^{u}h				
Side-trilled					ɬ	l		
Palatal-trilled					rh	r		

Start with *t*; give it voice, and it becomes *d*; pronounce *h* after *t* and you get *th*; instead of producing a stoppage to pronounce *t* and *d*, let the sound squeeze through, and the result is *þ* = E. *th* in *thing* and W. *th*, and *đ* = E. *th* in *this* and W. *dd*. Open the nasal passage while pronouncing *t*, and you get *nh*, not $= n+h$ but a voiceless *n* as in W. *nhad*; $n = d$ with the nasal passage open. So too the *h* in *mh* and *ngh* indicates that the sounds *mh*, *ngh* are voiceless, as in W. *mhen*, *nghalon*, whereas *m*, *n*, *ng* are voiced.

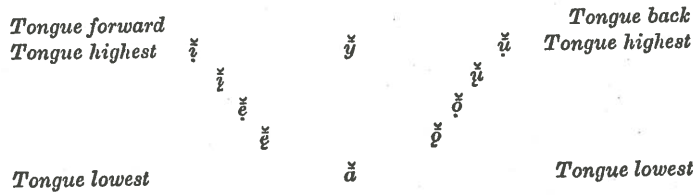
The labio-dentals *f*, *v* are pronounced with the top teeth on the lower lip. In pronouncing a front palatal the tongue touches the front roof of the mouth; for back palatals it touches the soft part at the back of the roof. Back palatals may or may not be accompanied by a rounding of the lips indicated by the little *u* above the line after *q*, &c. There are also back palatals without labialization, written *q*, &c. The symbols *š*, *ž* = *sh* as in *shirt* and the *z* in *seizure*. *Ch* and ȝ are the continuous forms of *k*, *g*; *ch* = W. *ch* as in *cloch* and the *ch* in Scotch-English *loch*; the corresponding voiced sound ȝ is heard in German (dial.) *sagen*. When *l* is pronounced the sound is squeezed between the tongue and one side of the mouth, when it is voiceless it is written *l* = W. *ll* in *llall*. The voiceless equivalent of *r* is *rh*, e.g. in W. *rhaid*. The sound *h* is best described as 'an emission of breath'; remember that in the columns marked 'continuous' *h* is merely a symbol to denote absence of voice.

N.B. Instead of the terms *voiceless*, *voiced* many scholars use *tenuis*, *media*. Non-continuous sounds are also called *stops* or *mutes*.

VOWELS

Vowels are sounds with *no audible* friction after passing through the vocal chords, sounds modified by the position of the tongue and lips; the tongue may be raised, lowered,

thrust forward, drawn back, or left in its normal position; the lips may be rounded, drawn out, or left in their normal position. The nasal passage may be opened; we then get nasalized vowels as in Fr. *on*, *en*, phonetically written *õ*, *ã*. The words *no audible* in the above definition mean 'with very much less friction than in the pronunciation of other continuous sounds'. The following table shows the most common vowels arranged according to the position of the tongue.



N.B. The vowels should be pronounced as in Latin, Italian, or Welsh (except that *ŭ* = E. *o͝o*, W. *w̆*). *y̆* = W. *ŭ*, which is not accompanied by a rounding of the lips.

Put your finger on the tip of your tongue and you will feel the pressure increasing as you pronounce the vowels in the following order, *a*, *e*, *i*.

When a vowel is *closed* it is higher than when it is *open*; closed *o* is nearer to *u* than open *o*; closed *e* is nearer to *i* than open *e*. The symbol *ę* is used to denote open *e* as in E. *pen*, W. *gwen*; *e̯* = closed *e* as (approximately) in E. *cāne*, and in W. *gwên*; both *ę* and *e̯* may be *long* or *short*. So too *ǫ* and *o̯*, *ų* and *u̯*. The vowels on the right-hand side of the table are usually pronounced with a rounding of the lips; they can be pronounced in another form without rounding, producing of course a different sound. The vowel *ă*, especially, includes a number of sounds that vary according to the position of the tongue and lips. N.B. Long vowels in English generally change as they are being pronounced and do not merely lengthen the same sound; compare W. *tôn* with E. *tone*.

SONANTS

Sonants are sounds that can form a syllable by themselves, as *a*, *e*, *i*, *l*, *r*, *m*, *n* in the following words: *at*, *he*, *pin*, *little* (the second *l*), *chasm*, and W. *medr* (two syllables), *aml* (two syllables). They can also be used in a syllable with other sounds that make the syllable. Every syllable has one accented sound, e.g. *e* in *stems*; that is the best description of a *syllable*; every one knows what a syllable is, but it is not easy to define it. The sound *m*, e.g., is by nature a sonant, that is, it is capable of forming a syllable, but it does not always act in that capacity; it does not form a syllable in *them*, it does in the second syllable of *chasm* and *prism*. N.B. *m̥*, *n̥*, *l̥*, *r̥* denote these sounds when they actually form a syllable, e.g. *prism* pron. *prizm̥*, W. *aml* pron. *aml̥*, except when we allow a vowel to develop and say *amal*. Cf. the usual pronunciation of the word *certainly* with *-tn̥-*.

DIPHTHONGS

A diphthong is a combination of two sonants one of which makes a syllable, that is, is accented. In the Homeric word *ἀυτή* there are three syllables and no diphthong; in *αὐτή*, 'she herself', there are two syllables, one of them a diphthong; *ἀυτή* = *ἀ* + *υ* + *τή*; *αὐτή* has a diphthong *αυ* pron. *au* (say E. *ow*, W. *aw*), the accent of the syllable is on the *α*. There are a large number of combinations used as diphthongs; remember that according to our definition *am*, *em*, *en*, *el*, *or*, &c., are diphthongs as well as *ei*, *oi*, *ui*, *eu*, &c. When *i* and *u* form the non-syllabic or unaccented part of a diphthong they are for phonetic purposes written *i̯*, *u̯*. The syllabic portion of a diphthong may come before or after the other portion; *i̯e*, *ei̯*, *i̯a* (as in L. *iacet*), *ai̯*, *oi̯*, *me*, *mo*, *om*, *le*, *lo*, *or*, *el*, *um*, *mu* are all diphthongs. Three sonants form a triphthong, e.g. L. *i̯am*, *clam*, *u̯en-io*, E. *run*, *limb*; there are even four sonants in words like W. *gwael*, *traul*, *moel*, E. *warn*, *worm*, *yearn*, and five in Welsh (colloquial) *m̥i̯awn* = *mewn*, 'in'.

CHAPTER IV

THE SOUNDS OF INDO-EUROPEAN; FIRST SECTION

INDO-EUROPEAN had a large variety of non-continuous sounds including a series of unlabialized back palatals not given in the table on p. 20. All these sounds can be traced in the derived languages (see p. 31). Apparently it had few continuous sounds besides sonants and *s*; at any rate it is not easy to infer them from the derived languages; but that is not enough to disprove their existence, and scholars can certainly produce solitary instances of I.E. *z*, *þ*, *đ*, *š*, e.g. *τέκτων* from I.E. *tekþōn*. Except in the aspirates *ph*, &c., no trace of I.E. *h* has yet been discovered.

In the following sections the equivalents given represent early forms assumed or retained by I.E. sounds in the daughter languages; these were frequently changed for reasons due to the influence of neighbouring sounds or other causes. For example, I.E. *d* = L. *d* as in *dedi*; but final *d* disappeared in Latin after a long vowel, cf. O.L. *Gnaiuod* = classical *Gnaeo*, abl. of *Gnaeus*. I.E. *t* = Gk. *τ*, but in some Gk. dialects *-τι* became *-σι* under certain conditions, e.g. *δίδωτι* = *δίδωσι*. I.E. *t* = W. *t*, but intervocalic *t* became *d* as in *adar* 'birds' for *atar*, cf. *πέτομαι* 'I fly'.

A. I.E. VOICELESS STOPS, UNASPIRATED

I.E.	*Sanskrit*	*Greek*	*Latin*	*Celtic*	*Gothic*
p	p	*π*	p	nil	f, b
t	t	*τ*	t	t	þ, d
k	ś	*κ*	c	c	h, g
q^u	k, c	*π, τ, κ*	qu, c	*Ir.* c *W.* p	hw, w

Sanskrit for I.E. q^u has *c*, pronounced like E. *ch* in *church*, before the Skt. vowels representing I.E. *ĕ* and *i*. N.B. *ś* = *sh* as in E. *show*.

Greek for I.E. q^u has usually *π*, but *τ* before *ε*, *η*, *ι* in most dialects, and *κ* when *υ* or *ϝ* = *u̯* comes before or after it.

Latin for I.E. q^u has *qu* or *c*, but Oscan and Umbrian have *p*.

Gothic has *b*, *d*, *g*, *w* when the preceding syllable of the I.E. word did not bear the accent, see p. 29, but initial I.E. *p*, &c., in Gothic = *f*, &c. I have chosen Gothic because it has the earliest and least changed I.E. forms, and these often survive in English. N.B. Gothic *h* = *ch* (W. *ch*) and E. *h*, according to its position in a word.

Examples

Generally speaking, it is best to confine one's attention to the one sound illustrated at the time; sometimes it may be necessary to explain the rest of the word in order to make its etymology clear.

I.E. *p*: Skt. *patiḥ* 'master', Gk. *πόσις*, *δεσπότης* lit. 'house-master', L. *pote*, *possum* = *pote-sum*.

Skt. *pibāmi* 'I drink', Gk. *πίνω*, Ir. *ibim*, W. *yfaf*.

Skt. *pitā* 'father', Gk. *πατήρ*, L. *pater*, Goth. *fadar*, Ir. *athir*.

Skt. *pra-* 'forward', Gk. *πρό*, L. *pro-*, Goth. *fra-*, Ir. *ro*, W. *rhy* (O.W. *ri*).

Skt. *sapta* 'seven', Gk. *ἑπτά*, L. *septem*, Goth. *sibun*.

Note on Welsh 'p'

As, with slight exceptions, e.g. *-pt* = *-cht*, I.E. *p* was dropped in Celtic, if you find a Welsh *p* you will know

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that it is not a genuine Welsh *p* derived from an I.E. *p*. It may be a genuine British *p* derived from I.E. q^u; it may be due to some change in the history of Welsh or it may be a word borrowed from some other language. The Welsh word for *fish* is *pysg* borrowed from L. *piscis*; *pren* 'tree' has *p* from I.E. q^u. The *p* at each end of the Welsh word for *five* is not derived from I.E. *p*; the I.E. word was *penq^{u}e*, Skt. *pañca*, Gk. πέντε; Latin and Celtic changed *penq^{u}e* to *q^{u}enq^{u}e* leading to W. *pump*, Ir. *cōic*, L. *quinque*.

I.E. *t*: I.E. *treies* 'three', Skt. *trayaḥ*, Gk. τρεῖς, L. *trēs*, W. *tri*, E. *three*. I.E. *kṃtóm* '100', Skt. *śatam*, Gk. *ἑ-κατόν*, L. *centum*, Ir. *cēt*, W. *cant*, E. *hundred*.

I.E. *k*: Gk. *καρπός*, E. *harvest*. Gk. *καρδία*, L. *cor*, W. *craidd*, E. *heart*. I.E. *dékṃ*, Skt. *daśa*, Gk. *δέκα*, L. *decem*, W. *deg* (earlier *dec*), Goth. *taíhun* (E. *ten*).

I.E. q^u: from the I.E. pronominal stems *q^{u}o-*, *q^{u}e-*, *q^{u}i-* we get: Skt. *kaḥ*, Gk. ποτε, L. *quod*, Oscan *pod*, Goth. *hwas*, E. *what*, all from *q^{u}o-*. From I.E. *q^{u}e(i)-* we get Skt. *-ca*, Gk. τε, L. *-que*, Ir. *cia* = W. *pwy* 'who'. From I.E. *q^{u}i-* we get Gk. τίς, L. *quis*, Oscan *pis*. I.E. *q^{u}olo-* gave Gk. *αἰπόλος*, but *βουκόλος* with *κ*, L. *colo*. I.E. *oq^u-*, Gk. *ὄπμα*=*ὄμμα*, L. *oculus*. I.E. *leiq^{u}ō*, Gk. *λείπω*, L. *linquo*, *relictus*, W. *llwybr*='mark left, track', with *b* for earlier *p*.

B. I.E. VOICED STOPS, UNASPIRATED

I.E.	*Sanskrit*	*Greek*	*Latin*	*Celtic*	*Gothic*
b	b	β	b	b	p
d	d	δ	d	d	t
g	j	γ	g	g	k
g^u	g, j	β, δ, γ	u, gu, g	b	q

Sanskrit for I.E. *g^u* has *j* pron. like E. *j* in *judge*, before the Sanskrit vowels representing I.E. *ĕ* and *i*.

Greek for I.E. *g^u* has usually *β*, but δ before I.E. *ϵ*, *η*, *ι* in most dialects, and *γ* when *υ* or *ϝ* comes before or after it. For I.E. *g^u* Oscan and Umbrian have *b*, Latin has *gu* after *n*, *g* before a cons. and *u*, otherwise *u*.

Note that both Irish and Welsh have *b* for I.E. *g^u*, and do not differ as in the representation of I.E. *q^u*=Ir. *c*, W. *p*, Table A.

Examples

b is not frequently found in I.E., it hardly ever appears in a suffix or ending. I.E. *b* is seen in L. *de-bilis*, W. *balch* 'proud'.

I.E. *d*: I.E. *dekṃ* '10', Skt. *daśa*, Gk. *δέκα*, L. *decem*, W. *deg*, Goth. *taíhun*, E. *ten*. Gk. *δείκνυμι*, L. *dīco*, E. *teach*. I.E. *ĕd-* 'eat', Skt. *admi*, Gk. *ἔδομαι*, L. *ĕdo*, E. *eat*. Skt. *hṛdayaḥ*, Gk. *καρδία*, L. *cord-is*, Goth. *haírto*, E. *heart*.

I.E. *g*: I.E. *gen-*, Skt. *janaḥ*, Gk. *γένος*, L. *genus*, W. *geni*, E. *kin*. I.E. *agros* 'field', Skt. *ajraḥ*, L. *ager*, Goth. *akrs*, E. *acre*.

I.E. *g^u*: I.E. *g^{u}ōus* 'cow', Skt. *gāuḥ*, Gk. *βοῦς*, W. *buwch*, *bu-gail*, E. *cow*. N.B. L. *bōs* is not pure Lat., or it would be *uōs*; it must have been borrowed from another Italic dialect. I.E. *g^u* also appears in Gk. *βαίνω*, L. *uenio*, Oscan *kumbened* = *conuēnit*, E. *come*; Gk. *βορά*, L. *uorare*, W. *barus* 'gluttonous'.

I.E. Aspirated Stops

The voiceless aspirates *ph*, *th*, &c. were rare in I.E., and their later history is complicated; so they have no place in an elementary treatise. The two sets of aspirates, *ph*, *bh*, &c, are still current in N. India to-day.

C. I.E. VOICED STOPS, ASPIRATED

I.E.	*Sanskrit*	*Greek*	*Latin*	*Celtic*	*Gothic*
bh	bh	ϕ	f, b	b	b
dh	dh	θ	f, d, b	d	d
gh	h	χ	h, g	g	g
g^uh	gh, h	ϕ, θ, χ	f, u, gu, g	*Ir.* g *W.* gw, f	w

Sanskrit for I.E. g^uh has *h* before the vowels representing I.E. *ĕ* and *i*.

Greek for I.E. g^uh has ϕ, θ, χ under the same conditions as those given for I.E. q^u and g^u.

Latin for I.E. *bh* has *f* initial, elsewhere *b*; for I.E. *dh* *f* initial, *b* inside a word near *r*, before *l* and after *u*, elsewhere *d*; for I.E. *gh* Lat. has *h* initial and intervocalic, *g* before and after a consonant. For I.E. g^uh Lat. has *f* initial, *u* intervocalic, *gu* after *n*, *g* before consonants or *u*.

Note how according to the above table Greek has throughout dropped the voice, turning *bh* to *ph* = ϕ, &c., Celtic and Gothic the aspirate, *bh* = *b*, &c.

Examples

I.E. *bh*: I.E. *bher-* 'carry', Skt. *bharāmi*, Gk. *φέρω*, L. *fero*, Ir. *berim*, W. *adferaf* (*f* for earlier *b*), E. *bear*. I.E. *bhrātēr*, *bhrātōr*, Skt. *bhrātā*, Gk. *φράτωρ*, L. *frāter*, W. *brawd*, E. *brother*. I.E. *nebhos* 'cloud', Skt. *nabhaḥ*, Gk. *νέφος*, L. *nebula*, W. *niwl* (*w* for *b*). Gk. *ἄμφω*, L. *ambo*.

I.E. *dh*: Gk. *θυμός*, L. *fūmus*. I.E. *dhē-*, Gk. *ἔθηκα*, L. *fēci*, E. *deed*. I.E. *dhr-*, Skt. *rudhiraḥ*, L. *ruber* (*rūfus* with *f* is not pure Latin), Gk. *ἐρυθρός*, Ir. *ruad*, W. *rhudd* (earlier *rud*), E. *ruddy*, *red*.

I.E. *gh*: Gk. *χειμών*, L. *hiems*, W. *gaeaf*. Gk. *ὄχος*, L. *ueho*, *uēxi* = *uēg-si*.

I.E. g^uh: g^uhen-, g^uhon-, g^uhn-, Skt. *hanti* 'he kills', Gk. *φόνος*, *θείνω* (for *θένιω*), *ἔπεφνον*, Ir. *gonim*, W. *gwanu*. I.E. *snig^{u}h-*, Gk. *νίφα*, *ἀγάννιφος*, L. *nix* = *nigs*, *niuis*, *ninguit*, W. *nyf*, E. *snow*. I.E. g^uher-, Gk. *θερμός*, L. *formus*, W. *gwres*, E. *warm*. I.E. *eueg^{u}he-*, Gk. *εὔχεται*, L. *uoueo*. I.E. g^uh is also seen in Gk. *ἐλαχύς*, *ἐλαφρός*, L. *lĕuis*.

GRIMM'S LAW

Note how the members of each I.E. group in Tables A, B, C, viz. I.E. voiceless, voiced, and aspirate stops, undergo the same kind of change in Gothic (and Germanic in general). The voiceless stops *p*, *t*, *k*, q^u became continuous sounds *f*, *þ*, *h*, *hw*, as seen in the first sounds recorded in the column under the heading *Gothic* in Table A. Table B shows that the I.E. voiced unaspirated stops *b*, *d*, *g*, g^u became voiceless *p*, *t*, *k*, *q* in Gothic. Table C shows that the I.E. voiced aspirated stops *bh*, *dh*, *gh*, g^uh lost the *h* and became *b*, *d*, *g*, *w* in Gothic. The statement of this general shifting of sounds in groups is known as *Grimm's Law*, although Grimm was not the first to discover it; it was discovered by Rask, a Dane like Verner.

Examples of the changes have already been given in the notes on Tables A, B, C.

VERNER'S LAW

Consider the second items of the column *Gothic* in Table A which gives *b*, *d*, *g*, *w* as alternative Gothic equivalents of I.E. *p*, *t*, *k*, q^u. The conditions under which these sounds appear were discovered by Verner, and the statement of them is known as *Verner's Law*. It is a supplement to *Grimm's Law*, and the following is the most convenient way of expressing it: When they did

not come at the beginning of a word and were not immediately preceded by the accent in I.E., I.E. *p*, *t*, *k*, q^u became *b*, *d*, *g*, *w* in Germanic. Examples: I.E. *pətér* became *fadar* in Gothic, but I.E. *bhrắtōr* became *brōþar* in Gothic. Eng. has *brother* with regular *th*, but the early form *fader* was changed by analogy to *father*.

Verner's Law is of great use and importance, as it helps us to find the position of the accent of a word in I.E. when Sanskrit and Greek contradict one another or when the word in question does not occur in one or both of these languages.

A general view of the two laws may be obtained by studying the columns marked *I.E.* and *Gothic* in Tables A, B, C. Owing to over-emphasis in lectures and text-books there is an unfortunate tendency, often unconscious, to regard this Germanic sound-shifting, of which there was a second stage in some Germanic dialects, e.g. German, as a unique phenomenon peculiar to Germanic. There are parallels elsewhere for the changes in the three groups of stops; e.g. Celtic dropped the *h* of I.E. *bh*, *dh*, *gh*, g^uh; Armenian changed the voiced stops to voiceless, and dropped the *h* of the aspirates, an exact parallel to the Germanic changes; and Greek changed the voiced aspirates to voiceless aspirates, I.E. *bh*, *dh*, *gh*, $g^uh = \phi, \theta, \chi, \phi$.

GRASSMANN'S LAW

According to what is known as *Grassmann's Law*, in early Greek when two aspirated sounds occurred in neighbouring syllables, the first of the two aspirates was dropped. So too in Sanskrit.

In Greek this led to the change of θ, ϕ, χ into τ, π, κ and the disappearance of the 'rough breathing' which we transcribe by the letter *h*.

Examples: I.E. *bheudh-*, Skt. *bōdhati* 'he wakes', Gk. *πεύθομαι* for *φ*. I.E. *bheidh-*, *bhid-*, Gk. *πείθω*, L. *fides*,

E. *bid*. Gk. *τίθημι* for *θίθημι*; *ἔχω* for *ἔχω*, but *ἕξω*, from a stem *segh-*; *ταχύς* but *θάττων*; *τριχός* but *θρίξ*; *τρέφω* but *ἔθρεψα*. For a similar form of dissimilation cf. *th—th* = *t—th* in W. *gwrtaith* for *gwrthaith* 'manure'.

NON-LABIALIZED BACK PALATALS

Consider the equations:

(1) Skt. *ś* = Gk. *κ* = L. *c* = Ir. and W. *c*, as in the word for '100', Skt. *śatam*, Gk. *ἑκατόν*, L. *centum*, Ir. *cēt*, W. *cant*.

(2) Skt. *k* = Gk. *π* = L. *qu* = Ir. *c* = W. *p*, as in the relative and interrogative seen in Skt. *kaḥ*, Gk. *πότερος*, L. *quod*, Ir. *cia*, W. *pwy*.

(3) Skt. *k* = Gk. *κ* = L. *c* = Ir. and W. *c*, as in Skt. *kraviḥ* 'raw flesh', Gk. *κρέας*, L. *cruor*, Ir. *crō*, W. *crau* 'gore'.

These suggest the existence of three groups of palatals in I.E.: (1) front palatals, *ḱ*, *ǵ*, &c.; (2) back palatals with labialization (rounding of the lips), q^u, g^u, &c.; (3) back palatals with no labialization, *q*, &c. To distinguish between unlabialized back *g* and front *g*, the former may be written *ǧ*, the latter *ĝ*. But we shall not deal with them in this book except to state that the I.E. unlabialized back palatals were in the *centum* languages treated like the I.E. front palatals and in the *satem* languages (see the next section) like the labialized back palatals of I.E., that is, the *satem* languages dropped the labial element (*u*) in the back palatals.

CENTUM AND SATEM LANGUAGES

The front palatals *ḱ*, *ǵ*, &c., became some kind of sibilant (*s*, *z*, *j*, &c.) in some I.E. languages, e.g. in Aryan, Armenian, Albanian, and old Bulgarian. These languages were spoken in one area, the speakers were neighbours, as may still be

inferred from the position of their linguistic descendants on the map, Indians, Persians, Armenians, Slavs, and Lithuanians extending from east to west or north-west. The other languages all in one area west or south-west of the other group either retained the I.E. front palatals as stops (non-continuous) or changed them into sounds that in early times were not sibilants; later on these sounds frequently became sibilants, as, e.g., in the I.E. word for '100' which in French, an I.E. language, is pronounced with an initial *s* although it is still written with a *c* (*cent*). Taking *satəm*, the Avestan word for '100', as a typical example for this group, scholars have given the name *satem* languages to those members of I.E. that turned the I.E. front palatals to sibilants at an early period of their career, viz. Indo-Iranian, Armenian, Albanian, Baltic-Slavonic. The languages that did not undergo this change are called *centum* languages, the Latin word for '100' being taken as a type; they are Greek, Italic, Celtic, Germanic, Tocharic (see p. 16).

I.E. *s*, *z*

Initial I.E. *s* before a vowel (1) remained in Sanskrit, Baltic-Slavonic, Italic, Irish, Germanic; (2) became *h* in Iranian, Armenian, Greek, Welsh. Note the grouping of these phenomena and mark the difference of treatment in closely related languages, e.g. Sanskrit and Iranian, Irish and Welsh. This indicates independent development in the same direction in languages far apart from one another, e.g. in Iranian and Welsh, initial *s* before a vowel = *h*. Indo-Iranian and Celtic, before the first split up into Indian (Sanskrit) and Iranian and the second into British (Welsh, &c.) and Goidelic (Irish, &c.), retained I.E. initial *s* before a vowel, Sanskrit and Irish continued to retain it, Iranian and Welsh changed it to *h*.

Intervocalic I.E. *s* in Iranian, Armenian, Greek, and Welsh became *h* which was afterwards dropped in Armenian, Greek, and Welsh. In some languages which kept I.E. *s* between vowels, it subsequently, under fixed conditions, became *z* and then, in some of these languages, *r*, e.g. in Latin, Umbrian, and Germanic.

All the I.E. languages kept I.E. *s* in certain positions, especially in the combinations *e*+*s*+*t*, e.g. Gk. *ἐστί*, L. *est*, W. *ys*, E. *is*, Germ. *ist*. But initial *st* and *t* (without the *s*) seem to have occurred side by side in certain I.E. words, Gk., e.g., has *στέγος* and *τέγος*; cf. L. *tego*, *toga* connected with Gk. *στέγος*, *τέγος*, E. *thatch*, W. *tŷ*, *to*; but Eng. has kept *st* in *stair*, Gk. *στείχω*, L. *ue-stīgium* though Lat. lost *s* in *tego*, *toga*. This probably means that I.E. itself had double forms for the same words, *st-*, *t-*, so too I.E. *sm-* and *m-* are to be perhaps inferred from the Greek doublets *σμικρός*, *μικρός*.

Examples of I.E. s

I.E. *sen-* 'old', Skt. *sanaḥ*, Gk. *ἕνος*, L. *sen-em*, Ir. *sen*, W. *hen*. Gk. *εἷς* for *ἕνς*, L. *semel*. I.E. *genos* 'race', 'family', Skt. *janaḥ*, Gk. *γένος*, L. *genus*; the gen. sing. in early Gk. was *γένεσος*, which became *γένεhος*, then *γένεος*, Attic *γένους*; in Lat. the early form was *geneses*, later *generis*; in Skt. *janasaḥ* for I.E. *genesos*. Gk. *ὑπέρ*, L. *super*. L. *sēmen*, *sero*, Ir. *sil*, W. *hil*, *had*, all meaning '*seed*', '*sow*'. L. *similis*, Gk. *ὁμαλός*, *ὁμός*, *ὁμοῖος*, Ir. *samail*, W. *hafal* for *hamal*, E. *same*.

Intervocalic *s* on its way to *r* is seen, e.g. in Oscan *egmazum*, gen. plur. of *egmo* 'thing'; but in Oscan it got no further; Latin and Umbrian went through the stages *s*, *z*, *r*; cf. *mensārum*.

The sound *z* was certainly to be heard in I.E.; but it seems to represent a development of *s* under certain conditions, e.g. before a voiced stop, *sd*, *sb* becoming *zd*, *zb*. Start with the I.E. *sed-* found in E. *sit*, L. *sedeo*, Gk. *ἕδος*,

&c.; it also occurred in the form *sd*, which by assimilation became *zd*; we know that I.E. had a preverb *ni* 'down', seen, e.g., in Skt. *ni-sīdati* 'he sits down'; connected with this there was an I.E. noun *nizdos* 'place where one sits', L. *nīdus* for *nizdos*, Ir. *nett*, W. *nyth*, E. *nest*.

I.E. *i̯*, *u̯*

Initial I.E. *i̯* in Greek became *h* or *ζ*; in Irish it disappeared; in most of the other I.E. languages it remained. Intervocalic *i̯* disappeared in many I.E. languages, but remained in Skt. and to some extent in Welsh.

I.E. *u̯* remained, especially when initial, in most I.E. languages. It occurs as the digamma *ϝ* in many Greek dialects. Initial *u̯* in Irish = *f*, in W. *gw*.

Examples of I.E. i̯

Gk. *ζυγόν*, L. *iugum*, W. *iau*, E. *yoke*. Gk. *ἧπαρ*, L. *iecur*. I.E. *i̯os* 'who', Skt. *yaḥ*, Gk. *ὅς*. L. *iuuencus*, *iuuenis*, Ir. *oac*, W. *ieuanc*, E. *young*. Intervocalic *i̯*: I.E. *trei̯es*, Skt. *trayaḥ*, Gk. *τρεῖς* for *τρέες*, L. *trēs*. Gk. *τιμάι̯ω φιλέι̯ω*, &c., like L. *laudai̯o*, *monei̯o*, lost the *i̯*.

Examples of I.E. u̯

Gk. dial. *ϝοῖκος* = *οἶκος*, L. *uīcus*. N.B. Attic and Ionic Greek lost the digamma at a very early period; cf. *ἔτος* = L. *uetus* 'old'; *ἰδεῖν*, L. *uid-ere*. I.E. *u̯ēros* 'true', L. *uērus*, Ir. *fīr*, W. *gwir*, Germ. *wahr*. L. *uir*, Ir. *fer*, W. *gŵr* 'man'.

I.E. *m*, *n*, *r*, *l*

I.E. *m* and *n* remained in most languages; in Greek final *m*, *n* both appear as *ν*, e.g. the acc. sing. of *o* and *a* nouns (= L. *m*) in Gk. has *ν*, *λόγον*, *χώραν*, L. *dominum*, *aquilam*. I.E. *m* is seen in Skt. *mātā*, Gk. *μήτηρ*, L. *māter*, Ir. *māthir*, W. *modryb* 'aunt', E. *mother*.

I.E. *n* in the words for 'new', *νέος*, L. *nouus*, W. *newydd*, E. *new*.

I.E. *r* remained in all languages; so too I.E. *l* except in Iranian where it became *r* and Skt. where it appears sometimes as *r*, sometimes as *l*.

I.E. *r* is seen in Skt. *rudhiraḥ*, Gk. *ἐρυθρός*, L. *ruber*, Ir. *ruad*, W. *rhudd*, E. *red*.

For I.E. *l* cf. Skt. *rocanaḥ* 'giving light', Gk. *λευκός* 'white', L. *lūceo*, Ir. *loche* 'lightening', W. *llug* (earlier *lug*), E. *light*, cf. also W. *go-lwg*, *am-lwg*.

CHAPTER V

THE SOUNDS OF INDO-EUROPEAN; SECOND SECTION

VOWELS

I.E. had *ă*, *ĕ*, *ŏ*, *ĭ*, *ŭ*, *ə*; *ə* was a weak vowel like *u* in E. *gun*, or *e* in Fr. *le*, or *y* in W. *cymerodd*. There was also another weak and indistinct vowel now written *ɔ* or 0.

In Aryan I.E. *ĕ*, *ŏ* became *ă*, so that I.E. *ă*, *ĕ*, *ŏ* were all represented by Skt. *ă*. It was once thought that I.E. itself had only *ă* and that the *ĕ*, *ŏ* of the other languages were due to the splitting of I.E. *ă* into *ă*, *ĕ*, *ŏ*. But it can now be proved that Skt. shows clear traces of I.E. *ĕ*. We have seen (p. 24) that I.E. *qᵘ* in Skt. became *k* and *c* (= *ch* in *church*); it became *c* before *ă* = I.E. *ĕ* seen in other I.E. groups, I.E. *qᵘos* = Skt. *kaḥ*, Gk. *πό-τερος*, &c., L. *quod*; but I.E. *qᵘe* = Skt. *-ca* not *-ka*, cf. Gk. *τε*, L. *-que*; cf. also Gk. *πέντε*, L. *quinque*, Skt. *pañca* not *paṅka*.

I.E. SHORT VOWELS

I.E. *ă* remained in Skt., Gk., Lat., Celt., Germanic. Examples: I.E. *agros* 'field', Skt. *ajraḥ*, Gk. *ἀγρός*, L. *ager*, Goth. *akrs*, E. *acre*. Cf. Skt. *ajāmi*, Gk. *ἄγω*, L. *ago*.

I.E. *ĕ* became *ă* in Aryan, and remained in the others. I.E. *bher-*, Skt. *bharāmi*, Gk. *φέρω*, L. *fero*, Ir. *berim*, W. *ad-feraf* (*fer* for earlier *ber*), Goth. *baíra* (*aí* = *e*), E. *bear*. I.E. *esti*, Skt. *asti*, Gk. *ἐστί*, L. *est*.

I.E. *ŏ* remained in Gk., Lat., Celt.; in Skt. and Gothic it became *a*. Examples: I.E. *oktō*, Skt. *aṣṭā*, Gk. *ὀκτώ*, L. *octo*, Ir. *ocht*, O.W. *oith* later *wyth*, Germ. *acht*. Cf. L. *toga*, W. *to* 'covering', 'roof'.

I.E. *ĭ* remained. Examples: Skt. *riktaḥ* 'empty', L. *re-lictus*, Gk. *ἔ-λιπον*. Skt. *asti*, Gk. *ἐστί*.

I.E. *ŭ* remained. Examples: Skt. *śunaḥ* = Gk. *κυνός*, W. *cŵn*. I.E. *jugom*, Skt. *yugam*, Gk. *ζυγόν*, W. *iau*, Goth. *juk* 'yoke'. Gk. *κλυτός*, Skt. *śrutaḥ*, L. *inclutus*, W. *cly-bu* 'he heard' for earlier *clu-*.

I.E. *ə* became *i* in Indo-Persian, *a* in the other languages. Examples: I.E. *pətēr*, Skt. *pitā*, Gk. *πατήρ*, L. *pater*, Ir. *athir*, Goth. *fadar*, E. *father*. L. *satus*, W. *had* 'seed'. Gk. has *ε*, *o* as well as *a*; but they are probably due to the influence (analogy) of the *η* and *ω* which occur in cognate forms; cf. *τίθημι*, *ἔθηκα*, *θετός* where we expect *θατός* = I.E. *dhətos*; *δίδωμι*, *ἔδωκα*, *δοτός* for *δατός*, but *στατός* from early Gk. *ἵστᾱμι*, Attic *ἵστημι*; Lat. has *a* in the corresponding forms *factus*, *datus*, *status*, cf. Skt. *sthitaḥ* = I.E. *stətós*.

The other indistinct I.E. vowel, 0, *ə*, appears as *a* in Skt. and most other languages, but occasionally as *ι* in Gk. Cf. Skt. *catvāraḥ* = Gk. dialectic *πίσυρες* = L. *quattuor*.

I.E. LONG VOWELS

I.E. *ā* = *ą̄* in Skt., Gk., Lat., Celt., but *ō* in Gothic. N.B. *ā* became *η* at an early period in Ionic-Attic Greek

and then in Attic this *η* when it stood after *ρ*, *ε*, *ι* changed back to *ā*: e.g. I.E. *dhurā* = Gk. *θύρᾱ* = Ionic-Attic *θύρη*, which remained in Ionic but became *θύρᾱ* in Attic; so too *οἰκίη* in Ionic, *οἰκίᾱ* in Attic. This explanation of *ρᾱ*, *εᾱ*, *ιᾱ* is not accepted by some scholars; they maintain that Attic inherited these sounds directly from I.E. Gk. *ᾱ* remained in other Gk. dialects. Examples: Skt. *mātā*, Gk. Doric *μάτηρ*, L. *māter*, Ir. *māthir*, W. *modr-yb* 'aunt', E. *mother*. This Celtic *ā* became *aw*, *o* in Welsh. Skt. *bhrātā*, Gk. *φράτηρ* (and *-ωρ*), L. *frāter*, Ir. *brāthir*, W. *brawd* pl. *brodyr*, E. *brother*. I.E. *ā* is seen in the nom. sing. of *ā* nouns (1st decl.), Gk. *χώρᾱ*, *τιμά*, Attic-Ionic *τιμή*, L. *mensă* for earlier *mensā*.

I.E. *ē*: Skt. *ā*, Gk. *η*, L. *ē*, Ir. and W. *ī*, Goth. *ē*. Examples: Skt. *a-dhā-t* = Gk. *ἔ-θη-κε*, L. *fē-ci*, E. *deed*. L. *sē-men*, Ir. *sil*, W. *hil* 'seed', 'race'. Cf. Gk. *πλήρης*, L. *plē-nus*, W. *lli-aws* 'multitude'. L. *uērus*, Ir. *fīr*, W. *gwir* 'true'. Skt. *rāj-* 'king', L. *rēg-em*, Ir. *rī*, W. *rhi*.

I.E. *ō*: Skt. *ā*, Gk. *ω*, L. *ō*, Celt. *ā*, Goth. *ō*. This Celtic *ā* became *aw*, *o* in Welsh. Examples: Skt. *dā-* 'give', Gk. *δίδωμι*, *δῶρον*, L. *dōnum*, Ir. *dān*, W. *dawn* pl. *doniau*. L. *flōs* (*f* = *bh*), Ir. *blāth*, W. *blawd*, *blodau*, E. *bloom*. Skt. *āśuḥ* 'quick', Gk. *ὠκύς*, L. *ōc-ior*, W. *diog* 'lazy', 'not quick', O.W. *diauc*. I.E. *gnōtos*, Skt. *jñātaḥ*, Gk. *γνωτός*, L. *(g)nōtus*, Ir. *gnāth*, W. *gnawd* 'usual'.

I.E. *ī*, *ū* remained in Skt., Gk., Lat., Celt., Gothic. This Celtic *ū* remained in Irish; in Welsh it became *ī*. Examples of I.E. *ī*: I.E. *gʷīu̯os*, Skt. *jīvaḥ*, L. *uīuus*. I.E. *ī* also appears in Ir. *rīm*, W. *rhif* 'number', O.E. *rīm* 'number'; also in I.E. *-īnos*, Skt. *-īnaḥ*, Gk. *κορακῖνος* 'a young raven', L. *haedīnus* 'belonging to a kid', Goth. *gaitein* 'a little goat' (*ei* = *ī*), W. *-in* as in *cysefin* 'early', *gerwin* from *garw* 'rough'.

Examples of I.E. *ū*: I.E. *dhūmos*, Skt. *dhūmaḥ*, Gk. *θυμός*, L. *fūmus* 'smoke', 'anger'. I.E. *tū* 'thou', Gk. *τῦ-νη*, L. *tū*, Ir. *tū*, W. *ti*, E. *thou*, Germ. *du*. Ir. *cū*, W. *ci* 'dog'.

I.E. *ăi, ĕi, ŏi, əi*

In Skt. I.E. *ai, ei, oi* became *ē*; they remained in Gk. and early Lat., but in classical Lat. *ei* became *ī*, *ai* = *ae* (*ī* in unaccented syllables), *oi* = *oe* = *ū*, *əi* = *ae* (*ī*). In Celtic I.E. *ai* = Ir. *ai, ae*, W. *oe*; I.E. *ei* = Ir. *ē, ia*, W. *wy*; I.E. *oi* = Ir. *oi, oe*, W. *ū*; I.E. *əi* = Ir. *ai, ae*, W. *oe*. I.E. *ai, oi, əi* = Goth. *ai, ei* = *i*.

I.E. *ău, ĕu, ŏu, əu*

In Skt. I.E. *au, eu, ou* became *ō*; they remained in Gk. and early Lat.; but in classical Lat. *eu, ou* = *ū*, *au* remained. N.B. I.E. *əi, əu* became *ai, au* at a very early period in all I.E. languages, so they developed like I.E. *ai, au*. In Celtic I.E. *au, eu, ou, əu* developed like one another, = Ir. *ō, ua*, W. *ū*. I.E. *au, ou, əu* = Goth. *au*; I.E. *eu* = Goth. *iu*.

Examples

I.E. *ai, əi*: I.E. *aidh-* 'burn', Skt. *ēdhaḥ* 'firewood', Gk. *αἴθω*, L. *aedes* 'fire-place', 'house', Ir. *aed* 'fire'. L. *caecus* 'empty', 'blind', Ir. *caech* 'one-eyed', W. *coeg* 'empty', *coegi* 'to speak with one eye closed', 'to fool'. I.E. *səitlom*, L. *saeclum* (*cl* for *tl*), W. *hoedl* 'life'. I.E. *ei*: Skt. *ēti* = Gk. *εἶσι* (*σι* for *τι*), L. *īt* for *eit*, later *ĭt*. Gk. *δείκ-νυμι*, L. *deico*, later *dīco*. L. *deus* from *deiuos*, Ir. *dia*, W. *duw* for *dwyw, dwyfol*. I.E. *oi*: Gk. *οἰνή* 'one' on a die, L. *oinos* = *oenus* = *unus*, Ir. *oin, oen*, W. *un*, Goth. *ains*, Germ. *eins*, E. *one*. I.E. *au, əu*: Skt. *ōjaḥ* 'strength', Gk. *αὐξάνω* (*αὐγ-σάνω*), L. *augeo*, Goth. *aukan* 'grow'. L. *au* (*-fero*), Ir. *ō, ua* 'from'. I.E. *eu*, Gk. *λεύσσω* 'look', for *λεύκ̣ιω*, Skt. *rōcate* 'he gleams'. I.E. *geus-* 'taste', Skt. *jōṣati* 'he tastes', Gk. *γεύω* for *γεύσω*, Goth. *kiusan* 'to choose'. I.E. *teut-* 'people', Ir. *tuath*, W. *tud*. I.E. *ou* is seen in Ir. *ruad*, W. *rhudd*, Goth. *raud-*, Germ. *rōt* 'red'.

I.E. had also *āi, ēi, ōi, āu, ēu, ōu*; but even in I.E. itself the second element was lost in certain cases, e.g. before *-m*, the ending of the accusative, where *ēi* and *ēu* became *ē*, cf. I.E. *di̯ēum* = I.E. *di̯ēm*, L. *diem*, Skt. *dyām*. These long diphthongs are best seen in Skt. where I.E. *āi, ēi, ōi* appear as *ai*; *āu, ēu, ōu* as *au*, while the short I.E. diphthongs *ăi, ău*, &c., appear in Skt. as *ē, ō*. The long diphthongs may be seen in the endings of the Gk. dat. sing. of *ā* and *o* nouns; e.g. *λόγωι* so written by the Greeks for *λόγῳ, χώρᾱι, δόξηι*, Attic for *δόξᾱι*, this *ι* was dropped before 200 B.C. In most languages these long diphthongs were usually shortened, e.g. in Gk. *Ζεύς*, for *Ζηύς*, I.E. *di̯ēus*.

INDO-EUROPEAN SYLLABIC NASALS AND LIQUIDS

When *m, n, r, l* themselves form a syllable, they are written *m̥, n̥, r̥, l̥*. I.E. *m̥* = Skt. *a*, Gk. *α*, L. *em*, Goth. *um*, Ir. *em*, which became *ē* before *c, t*, W. *am*. So too I.E. *n̥* = Skt. *a*, Gk. *α*, L. *en*, Goth. *un*, Ir. *en, ē*, W. *an*. N.B. *mt* became *nt* by assimilation in Lat., Celt., Goth. Examples: I.E. *kṃtóm* '100', Skt. *śatam*, Gk. *ἑ-κατόν*, L. *centum*, Ir. *cēt*, W. *cant*, E. *hundred*. The I.E. word for 10, *dekṃ* = Skt. *daśa* = Gk. *δέκα* = L. *decem* = W. *deg, dēng niwrnod* '10 days' for early Celt. *decan*. This I.E. *m̥* is seen in the acc. sing. of Gk. and Lat. consonant stems, e.g. *φύλακα*, L. *ducem*. I.E. *tn̥tós* 'stretched', Gk. *τατός*, L. *tentus*, Ir. *tēt* 'chord', W. *tant*. Gk. *πένθος* with I.E. *en*, *ἔ-παθον* with I.E. *n̥*. Cf. the negative I.E. *n̥* in Skt. *a-jñātaḥ*, Gk. *ἄ-γνωτος*, L. *ignotus* for *engnotos*, cf. *dignus* for *dengnos* itself for *decnos* (*dec-et*), E. *uncouth* 'unknown'; Ir. *ē-trōcar*, W. *annhrugarog* 'not merciful'.

I.E. *r̥* = Skt. *r̥*, Gk. *ρα, αρ*, L. *or* (*ur*), Goth. *aúr* (= *or*), Ir. *ri, re*, W. *ri* later *ry*. I.E. *dhr̥s-* 'dare', Skt. *dhr̥ṣ-nō-ti* 'he dares', Gk. *θράσος, θάρσος*, Goth. *ga-daúrsan* 'to dare'. I.E. *kr̥d-* 'heart', Skt. *hr̥dayaḥ*, Gk. *καρδία, κραδίη*, L. *cord-is*, Ir. *cride*. I.E. *pr̥t-*, L. *portus*, O.W. *rit*, W. *rhyd*, E. *ford*.

I.E. *dṛk-*, Gk. *ἔ-δρακον*, Ir. *drech*, W. *drych* 'aspect', 'mirror', *edrychaf* 'I see'.

I.E. *l̥* = Skt. *ṛ*, Gk. *λα*, *αλ*, L. *ol* (*ul*), Goth. *ul*, Ir. *li*, *le*, W. *li* (*ly*). Examples: I.E. *mld̥u-* 'soft', 'weak', Skt. *mṛduḥ*, Gk. *ἀμαλδύνω*, L. *mollis* for *moldu̯is*. I.E. *plt-* 'wide', Skt. *pṛthuḥ*, Ir. *lethan*, W. *llydan*. I.E. *mlkt*, L. *mulctus* 'milked', Ir. *mlicht*, *blicht*, W. *blith*, e.g. *gwartheg blithion* 'milch cows'. I.E. *q*^{u}*ṛmis* 'worm', Skt. *kṛmiḥ*, W. *pryf* for *prim*.

There were also in I.E. sounds usually written *m̄*, *n̄*, *r̄*, *l̄* (or *ṃə*, *ṇə*, &c.) seen in Gk. *κμᾱτός*, Attic *κμητός*; L. *nātus* for *gnātus*; Goth. *kaúrn*, E. *corn*; Ir. *lān*, W. *llawn* = I.E. *pl̄nos*.

CHAPTER VI

ACCENT

When we speak, special prominence is given to one syllable in each separate word; this is done (1) by putting more stress or pressure (W. *pwyslais*) on the vowel, thus giving the syllable a *stress accent*; (2) by raising the tone or pitch of the vowel, thus giving the syllable a *pitch accent* (or *musical accent*). Both processes may be combined, as in Modern Greek in which the accented syllable is stressed and raised in tone. Stress accent predominates in English and Welsh. In I.E., Old Skt., and Gk. pitch accent prevailed; the written accents of Gk. indicate this kind of accent; the acute, e.g. in *λέγω*, denotes a rise of tone in *ἑ*; the circumflex, e.g. in *τιμῶμεν*, a rise and then a fall in *ῶ*; the grave accent shows that the tone is not to be raised, e.g. in the *ὰ* of *φορὰ*. These Greek accent-marks were invented and first used *c.* 200 B.C. for the convenience of foreigners learning the language; cf. the modern practice of printing accented Russian texts for foreign students,

e.g. in *The Oxford Russian Texts*. It should be remembered that what we call *accent* includes many combined phenomena; Saran, a German scholar, detected fourteen different elements in the accenting of Modern German.

The nature of the accent in Latin has been hotly discussed and the opinions of scholars still vary. Personally I am convinced that there was a strong stress on the first syllable of words in early or pre-literary Latin, replaced by a pitch accent on the second or third syllable from the end of words in Latin of the classical period; this became a strong stress before the fifth century A.D. Even those who deny the existence of a stress accent in early Latin admit that the first syllable had a peculiar force that produced a weakening in the vowels of the following syllables; it seems to me that this force can be due only to a strong stress. The advocates of a stress accent in classical Latin very naturally assume that the Romans borrowed Greek terms, e.g. *acutus* = *ὀξύς*, *grauis* = *βαρύς* and applied them to difference of stress instead of pitch as in Greek; they also make the quantitative basis of classical Latin metres depend upon a slavish imitation of Greek metres. There is much to be said for this theory, but I have not yet seen enough evidence of vowel-weakening in classical Latin to convince me that a strong stress prevailed.

For instances of vowel-weakening due to stress accent cf. E. *nātion*, but *nătionăility*, W. *gorchýmyn* 'command', but *gorchmýnion* 'commands'. For the use of pitch cf. the difference of meaning according to the intonation of the following sentence in E. and W.: *he's gone* = *mae wedi mynd. He's gone!* = *mae wedi mynd! He's gone?* = *mae wedi mynd?* When this sentence is spoken, the difference of intonation or pitch clearly indicates (1) a mere statement, (2) sorrow or surprise, (3) a question, which in many modern languages, e.g. English, Welsh, Russian, can be indicated without any change in the order of words.

POSITION OF THE ACCENT

The accent in Indo-European was a *free accent*, that is, it could rest on any syllable of a word, however long that word might be. Vedic and early Classical Sanskrit followed Indo-European in this respect; Greek and Latin suffered a change; in neither of these languages, as we know them, could the accent fall on a syllable earlier than the third from the end of the word, cf. *φερόμενος, φερομένοισι, amā́bilis, amābílibus*. There is no restriction regarding the place of the accent in English, cf. *nátionalism, nationálity*. In Welsh the accent is regularly placed on the next syllable to the last, cf. *cymýdog*, pl. *cymdógion, péchod*, pl. *pechódau*; exceptions are mostly due to contraction, as in *glanhâd* = *glanha-ad*.

Another matter to be considered is *the rate of speech*, which the Germans very conveniently call *sprech-tempo*; the length and indeed the very existence of vowels depends upon the rate at which a person is speaking and the emphasis which he puts into them. Normally we say, e.g., *go away*, stressing *way* and more or less slightly stressing *go*; when we are very emphatic and insistent we say *gō awāy*, slowly and with more stress on *go* and *way* as well as more length of vowel; at other times we say *gway*. So too in the corresponding Welsh sentence the normal colloquial form is *cerwch ŏma*, emphatic *cérwch ŏma* with more stress and lengthening as in English, and also, as in English, a slight pause between the syllables; at other times we just say *chŏma*.

N.B. The accent dealt with above is the *word-accent*. Every syllable in a word has also an accent, that is, a point which serves as a focus around which the rest of a syllable is gathered, e.g. the *o* and *e* in *jointed*.

CHAPTER VII

ABLAUT OR VOWEL ALTERNATION

A VERY large number of I.E. words had three or more elements; a *root* or *base*, one or more *suffixes*, and an *ending* or *desinence*. The *root* or *base* gave the general meaning of the word, the *suffix* modified or particularized that meaning, the *ending* or *desinence* showed the relation of the word to the rest of the sentence or specified the person, case-ending, tense-ending, &c. For instance, taking the base δω- 'give', δώ-τωρ 'the person that gives', δώτορ-ες, nom. plur. of the same word, ἔδω-κ-ε, 3rd pers. of a tense formed with a suffix -κ-. In addition to these elements placed after the base I.E. had frequently one or more placed before it, cf. E. *shield-bearer*, Gk. στρατηγός 'host-leader', Doric στραταγός = I.E. *strato-agos*, and the I.E. word for 'nest' (see p. 34) *ni-zdo-s* 'down-sitting place'.

I.E. words and word-elements were characterized by their consonants; the vowels often varied in certain definite sequences or series, as seen, e.g., in Gk. πατήρ, πάτερ, ἀπάτωρ, ἀπάτορα, πατρός. *Ablaut* or *Vowel Alternation* is the name given to the variation in I.E. itself of vowels in etymologically related word-elements.

Ablaut is most clearly seen in Gk., as in that language the I.E. vowels have undergone so little change. There are three chief series or sequences:

A. ĕ, ē, ŏ, ō, a weak vowel (ə, 0), no vowel.
B. ē, ō, ə, no vowel.
C. ā, ō, ə, no vowel.

Examples

A. Gk. πάτερ, πατήρ, ἀπάτορα, ἀπάτωρ, πατρός; L. *tego, toga*; *preces, procus*; Gk. πέλομαι, πόλος, ἐπλόμην; τέκος, τέτοκα, τίκτω for τί-τκ-ω; ἔπεσον for ἔπετον, πότμος,

πίπτω; *ἔχω* for *segho* = *σέχω* = *ἔχω* = *ἔχω*, *ὄχος* 'holder', *ἔσχον*.

Note what happens to the nil (no-vowel) forms of *em*, *en*, *er*, *el*, viz. *m*, *n*, *r*, *l*; between consonants and at the end of a word after a consonant they become *ṃ*, *ṇ*, *ṛ*, *ḷ*. The nil forms in alternation with *ei*, *oi*, *eu*, *ou* are *i*, *u*. Examples: *πείθω*, *πέποιθα*, *ἔπιθον*, a sequence seen in O.L. *feido*, classical *fīdo*, *foedus* for earlier *foidos*, *fīdes*. Gk. *τείνω* for *τένϳω*, *τόνος*, *τατός* for I.E. *tn̥tós*. Gk. *πένθος*, *πέπονθα*, *ἔπαθον*, *πάσχω* = *πηθσκω*. Gk. *δέρκομαι*, *δέδορκα*, *ἔδρακον*. Gk. *εἶδος*, *οἶδα*, *ἰδεῖν*. *ἐλεύσομαι*, *ἐλήλουθα*, *ἦλυθον* (Homer). *στείχω*, *στοῖχος*, *στίχος*. *πέρθω*, *πόρθος*, *πραθεῖν*. *ῥέω* for *ῥέϝω*, *ῥόος* for *ῥόϝος*, *ῥυῆναι*, *ῥυτός*.

Base, suffix, and ending are subject to ablaut; examples of ablaut in bases have already been given.

For endings cf. *-es*, *-os*, *-s* in Gk. *φύλακος*, L. *dŭces*, classical *dŭcis*, L. *currūs* (gen.) for *currou-s*. An old Lat. gen. in *-os* is seen in *nominus* for *nominos* and *patrus* for *patros* found on inscriptions; these *-us* (*-os*) forms are dialectic in Lat. For suffix-ablaut cf. *τερ*, *τηρ*, *τορ*, *τωρ*, *τρ*, in Gk. *δότερια* = *δότειρα*, *δοτήρ*, *δώτορα*, *δώτωρ*, *ἄρο-τρ-ον* (but *ἀροτήρ*); cf. L. *dator*, *datrix*.

B. This section probably includes two different series: (i) *ē*, *ō*, *ə*, nil and (2) *ō*, *ə*, nil with no *ē* member. Examples: L. *sēmen*, *sătus* (*a* = *ə*), *si-s-o*, which became *sero*. Gk. *ἔθηκα*, *θωμός* ('heap'), *θετός* (see p. 36). *δίδωμι*, *ἔδωκα*, *δοτός* (see p. 36). L. *dōnum*, *dătus* (*a* = *ə*), *de-d-i* (*ō*, *ə*, nil).

C. Examples: Gk. *φᾱμί*, Attic *φημί*, *φωνή*, *φατός*. L. *fāma*, *fāteor*. Gk. *ἵστᾱμι* Attic *ἵστημι*, *στατός*; L. *stāre*, *stătus*, *steti* for *ste-st-i*. L. *pāc-em*, *păc-is-cor*.

Ablaut is not so simple as may be thought after a survey of the above instances; there was a very large stock of disyllabic bases in I.E., leading to a large variety of forms, e.g., from the I.E. base of which one form is *genə-*, we get in Gk. *γενή-σομαι*, *γένε-σις*, *γνή-σιος*, *γνω-τός* 'relative', *γέν-ος*, *γόν-ος*, *γί-γν-ομαι*, *γέγαμεν* for *γέγn̥μεν*.

Variations of vowel occur in English and Welsh; some of these are inherited from I.E. Many forms of I.E. ablaut still survive in Germanic verbs; the following are typical examples:

ĕ-ŏ-nil series: E. *give*, *gave*, Germ., *gebe*, *gab*.
ĕn-ŏn-ṇ series: E. *drink*, *drank*, *drunken*.
ĕm-ŏm-ṃ series: E. *swim*, *swam*, *swum*.
ĕr-ŏr-ṛ series: E. *bear*, *bare*, *born*.
ē-ō-ə series: E. *deed*, *doom*.

Examples of ablaut in Mod. Welsh:

ĕ-ŏ-nil series: *cymeraf* 'I take', from I.E. *com-bher-*, *cymryd* 'to take', from I.E. *com-bhṛ-t-*.
ĕl-ŏl-ḷ series: *celaf* 'I hide', from I.E. *kel-*, *clyd* 'hidden', 'snug', from I.E. *klt-*.
ē-ō-ə series: *hil* 'seed', 'race', from I.E. *sēl-*, *had* 'seed', 'race', from I.E. *sət-*.

Numerous vowel changes of which we can trace the history are of later origin in each language, e.g. E. *man*, *men*; *mouse*, *mice*; *goose*, *geese*; W. *gwyn*, *gwen*; *bardd*, *beirdd*; *crwm*, *crom*; these changes are due to the influence of vowels now lost, e.g. *gwyn* = *u̯indos*, *gwen* = *u̯indā*.

The existence in I.E. of vowels varying in certain sequences is well established and admitted by all grammarians; but there is no general agreement about its origin. According to the majority of scholars the I.E. accent was responsible for the variations; the no-vowel grade is due to the weakening of, e.g., I.E. *ĕ* or *en* in an unaccented syllable, seen in *ἔπαθον*, *παθεῖν* (*a* = *ṇ*), *ἔχω* = *segho*, *σχεῖν*. They explain the ablaut *ĕ*, *ē* by assuming that an unaccented syllable had been lost at the end of a word, e.g. an earlier I.E. *pətére* lost *e* and *ĕ* was lengthened by compensation, so we get *pətēr*; the *ŏ* forms are attributed to the shifting of the accent in I.E. itself, especially in compounds, so that the original accent lost much of its force; this would account for *pətḗr* and *ápətōr*, Gk. *πατήρ*,

ST. BONAVENTURE

ἀπάτωρ. There are many Gk. examples that favour this view; cf. λείπω, λέλοιπα, λιπεῖν; πέτομαι, ἐπτόμην.

But there are serious difficulties connected with these explanations, especially the one offered for the alternation of ĕ and ŏ. Distinguished French scholars like Meillet and Vendryes do not accept these theories, they are content to ascertain the facts of ablaut in I.E., but regard with suspicion any procedure which seeks to explain the unknown by going back to a still further unknown. For instance, I.E. *leiqᵘ-*, *liqᵘ-* are forms inferred after comparing Gk. λείπω, ἔλιπον, L. *relĭcuus*, *relīqui* and similar forms in other languages; the accentual explanation of ablaut asks us also to account for the relation of this inferred couple *leiqᵘ- liqᵘ-* by inferring an earlier stage of I.E. when *liqᵘ-* was still *leiqᵘ-*. According to the French scholars the variations in the vowel-series of I.E. served to indicate different *types of formation*; e.g. λειπ-, present stem, λιπ- aorist, λοιπ-, perfect.

For a very comprehensive and interesting, but not always convincing, account of I.E. ablaut see H. Hirt's book: *Der indogermanische Vokalismus*, Heidelberg, 1921. Advanced students should read his books in chronological order and note how his views developed and changed; (1) *Der indogermanische Ablaut*, Strassburg, 1900; (2) *Handbuch der griechischen Laut- und Formenlehre*, Heidelberg, 1902; (3) Second edition of (2), 1912; (4) *Der idg. Vokalismus*, 1921, vol ii of his *Indogermanische Grammatik*, Heidelberg, 1921–9.

CHAPTER VIII

NOUNS AND ADJECTIVES: STEMS

I.E. nouns and adjectives were very much like those of Gk. and Lat.; but I.E. had eight cases preserved only in the Indo-Iranian group: Nominative, Vocative, Accusative,

Genitive, Dative, Ablative, Instrumental, and Locative. Modern Russian has still six very active cases, besides an occasional vocative. I.E. had three numbers, Singular, Dual, Plural, and three genders used for grammatical purposes, not necessarily denoting difference of sex; as in Gk. and Lat., so in I.E. 'a noun that requires the feminine form of the adjective that accompanies it' is the only possible definition of a 'feminine noun'. Cf. W. *y gath wryw* 'the male cat', *cath* fem., 'cat', *gwryw* 'male', *y gennad* 'messenger' (*cennad* is fem.), Fr. *la garde*, *la sentinelle*, used of men. As there was no structural difference between I.E. nouns and adjectives, except demonstrative adjectives and other types of pronominal adjectives, we can discuss them both together; the demonstratives and the pronouns demand separate treatment.

STEMS OR THEMES

The *stem* or *theme* of a word may be defined as 'everything that comes before the ending', e.g. λόγο- is the stem of λόγο-ν, λέγε- is the stem of λέγε-τε, λέγο- of λέγο-μεν, *patr-* of *patr-um*, *auditōrio-* of *auditōrio-m* (classical *-um*), *rēg-* of *rēg-is*, *monē-* of *monē-mus*, φύλακ- of φύλακ-α, ποδ- of ποδ-ί. The following groups are but a selection from a large variety of nominal, adjectival, and participial stems. I quote Gk. forms because the I.E. vowels are more easily seen in Gk.

(1) Base or root nouns, of one or more syllables, with no suffix: I.E. *pĕd-*, *pŏd-* 'foot', Skt. *pāt*, gen. *padaḥ*, Gk. ποδ-ός, L. *pĕd-is*. I.E. *rēg-* 'king', Skt. *rāj-*, L. *rēx* = *rēgs*, *rēg-em*, Gaul. *Dumnorix* 'king of the world', W. *rhi*.

(2) Stems with a thematic vowel, ĕ or ŏ, often indicating action. N.B. Thematic vowels are seen in λόγε (vocative, with no ending), λόγο-ν, λέγε-τε, λέγο-μεν, &c., φόρο-ς (φέρω), λόγο-ς (λέγω), πλόο-ς (πλέω), τομό-ς (τέμ-νω), L. *procu-s* (for *o-s*), but *prec-ēs* with no thematic vowel (cf. *precor*), and

ST. BONAVENTURE

neuters *ἔργο-ν*, *ζυγό-ν*. Note how the base before the thematic vowel has often *o* in ablaut with the *e* of the verbs and *prec-es*.

(3) Stems with suffix *-es-*, *-os-*, with *e* vocalism of the root; these are often abstract nouns: I.E. *kleu̯os* 'fame', gen. *kleu̯esos*, Skt. *śravaḥ*, gen. *śravasaḥ*, Gk. *κλέϝος*, gen. *κλέϝεσος*, Attic *κλέος*, *κλέους*. I.E. *genos*, *genesos* (or *-es*), Gk. *γένος*, *γένεσος*, Attic *γένους*, L. *genus* for *genos*, *generis* for *geneses*.

(4) Suffix *-eu-*, *-ou-*, *-u-*. Never forget that ablaut affects the forms of suffixes, and endings as *-eu*, *-ou*, *-u* here, and *γένος*, *γένεσος* = *γένεος γένους*, so too L. *genus* for *genos*, *generis* for *geneses*, with *-es* ablaut in the ending, but *-os* ablaut in the dialectic *Castorus* for *Castoros*. *βαθύ-ς*, *πολύ-ς*, L. *curru-s*, gen. *currou-s*, later *currūs*.

(5) Suffix *-io-*, *-i̯o-*, especially in adjectives or nouns derived from nouns: *ἐνύπνιο-ν* (*ὕπνος*), *somniu-m* (for *io-m*), *ἵππιος*, *δεξιός*, *ἄλλος* = *ἄλι̯ος*, *alius*.

(6) Suffix *-no-*: *somnu-s* (= *os*), *ὕπνο-ς*, W. *hun* 'sleep', *dōnu-m*.

(7) Suffix *-mo-*: *θερμό-ς*, *formu-s* (for *-os*); this suffix often marks the contrast between several things, e.g. *πρό-μο-ς* 'foremost', *prīmu-s* for *pris-mo-s*, the *s* is seen in *pris-cu-s*.

(8) Suffix *-to-*, especially in verbal adjectives and past participles: I.E. *klutó-s*, Skt. *śru-ta-ḥ*, *κλυτό-ς*, L. *inclutu-s*, Ir. *cloth*, W. *clod* for *clot*, E. *loud*, the general sense being 'heard', 'famous'.

(9) Suffix *-i̯es-*, *-is-*, *-ī̯es-*, and enlarged *-is-to-*, frequent in comparatives and superlatives; Skt. *svād-īyas-*, *ἡδίω* (acc.) for I.E. *su̯ādī̯osm̥*, L. *suauiōr-em* (for *-i̯ōs-em*), *ἥδιστο-ς*, E. *sweetest*.

(10) Suffix *-tero-*, *-toro-*, *-tro-*, to mark the opposition of two objects, I.E. *qᵘotero-s*, Skt. *katara-ḥ*, Gk. *πότερο-ς*, L. *uter* = *utero-s*, E. *whether*. L. *alter* for *alteros*, comparatives like Gk. *ὠμότερο-ς* = Skt. *āmatarā-ḥ* 'rawer'.

(11) Suffix *-ko-* seen in nouns and adjectives like *φάρμακο-ν*, *μαντικό-ς*, *bellicu-s*, *ciuicu-s*.

(12) Suffix *-tĕr-*, *-tŏr-*, *-tr-*: *σωτήρ*, *σώτερ-μα* = *σώτειρα*, *δώτωρ*, *δώτορ-ες*. L. *uictor*, *uictr-ic-s* (= *x*).

(13) Suffixes *-tro-*, *-dhro-*, *-dhlo-*, denoting the instrument. *ἄροτρο-ν*, L. *arātrum*, W. *aradr*. L. *crībru-m* (for *-om*, *dhr* = *br*), Ir. *crīalhar*, O.W. *cruitr*. *γένεθλο-ν*, *νίπτρο-ν*.

(14) Suffix *-tei-*, *-ti-*: *βάτι-ς* = *βάσις*, L. *mens* for *mentis*, E. *birth*.

(15) Suffix *-teu-*, *-tou-*, *-tu-*, especially in Lat. supines, and other verbal nouns: L. *cubitu-m*, *portu-s*, Ir. *rith*, W. *rhyd* = O.W. *rit* for I.E. *pr̥tu-s*, Gaulish *Ritu-magus*, which in Welsh would be *Rhyd-fa*, Old High German *furt*, E. *ford*.

(16) Suffix *-mĕn-*, *-mŏn-*, *-mn-*, *-mn̥-*, frequent in neuter nouns, Gk. *-μα*, L. *-men*: *τέρμα*, *τέρμων*, *πυθμήν*, *πυθμέν-ος*, *ὄνομα*, L. *nōmen*, *lūmen*. This suffix is often enlarged by the addition of *-to-*, as in L. *augmen-to-m* (= *-um*).

(17) Suffix *-u̯ent-*, seen in Gk. *χαρίϝεντ-α* = *χαρίεντα*, *χαρίεις* = *χαρίϝεντς*.

NOUN STEMS CONNECTED WITH VERBS

(1) Present and aorist participles in *-ent-*, *-ont-*, *-nt-*, *-n̥t-*: Skt. *s-an*, nom. plur. *santaḥ* = I.E. *sent-* or *sont-es*; Gk. *ὤν* for *ὤν* = I.E. *sonts*, acc. *ὄντα*, nom. plur. *ὄντες*; L. *(prae-)sent-em*; all the above are present participles of the verb *es-* 'to be' seen in L. *est*. Pres. and aor. Gk. participles like *φέροντ-ος*, *λαβόντ-α*, L. *ferens*, *ferent-em*, &c.

(2) Perfect participles in *-u̯es-*, *-u̯et-* (ablaut *-u̯os-*, *-us-*, &c.), Gk. *εἰδώς*, *εἰδότ-ος*, neut. *εἰδός*, for *εἰϝδώς*, &c., fem. *ἰδυῖα* for *ἰδύσ-ια* with *-νσ-* in alternation with *-u̯os-*, *-u̯es-*.

(3) Middle and passive participles: *-meno-*, *-mno-*: Skt. *bharamāna-ḥ* = *φερόμενο-ς*. L. *alumnu-s* for *alomno-s*, 'fosterling', *alo*, 'I bring up'. *Uertumnu-s* 'the changing god', deponent or middle participle of *uerto*.

ST. BONAVENTURE

INFINITIVES

These are essentially nouns, although, owing to their close connexion with verbs, they have come to take the same construction as the corresponding verbs, for instance, *laudāre eum*, like *laudat eum*, γράφειν λόγον, like γράφει λόγον. But their nominal nature is still to be seen in the Gk. habit of putting the article before them and treating them like neuter singular nouns, e.g. τὸ γράφειν 'writing', πρὸ τοῦ γράφειν 'before writing', ἐν τῷ γράφειν 'in writing', but they are verbs in having an adverb, not an adjective, to qualify them and in governing an object in the accusative case. We may call Gk. infinitives half nouns and half verbs; they would be nouns only in Greek if they were, like nouns, qualified by an adjective and accompanied by a genitive of the object. Although one can say τὸ λόγον ποιεῖν, one cannot say τὸ δεινὸν ποιεῖν λόγου = 'the clever making (of) a speech', this can only be done when a pure noun is used as in ἡ δεινὴ ποίησις λόγου = τὸ δεινῶς λόγον ποιεῖν. In Welsh the infinitive is still used with the article, an adjective to qualify the infinitive, or an objective genitive, e.g. *y canu* 'the singing', *y canu da* 'the good singing', *canu cân* 'to sing a song'; but also *canu cân yn dda* 'to sing a song well', where the infinitive takes an adverbial expression *yn dda* 'well'. The difference of case is seen in *canu cân* 'to sing a song', and *canaf gân* 'I shall sing a song'. A good example of the use of the infinitive as noun is seen in the rare Lat. construction *scīre tuum nihil est* 'your knowing' (Persius 1. 27). I.E. had no infinitives attached to verbs as in Gk. and Lat. Verbal nouns in the appropriate cases served every practical purpose; consequently we find remains of I.E. cases in the infinitives of the daughter languages. Examples: Skt. *aje* = I.E. *agei*, a dative = 'for driving', = Lat. passive infin. *agi* for *agei*. Gk. δόμεν 'to give', dialectic aorist infinitive of δίδωμι, is an old endingless locative case in *-es-* enlarged by a stem in *-en-*, φέρ-εσ-εν = φέρεεν = φέρειν. L. *es-se*, *fer-re* for *fer-se*, *uel-le* for *uel-se*, *reg-er-e* for *reg-es-e* are probably locatives with a locative ending *e* for earlier *i*, cf. neut. *triste* for *tristi* (*i* still seen in *tristi-s*, *tristi-um*). The German infin. *sag-en* 'to say' shows an I.E. accusative, so does the Oscan infin. in *-um*, e.g. *ezum* 'to be', *deicum* 'to say', *edum* 'to eat'. Gk. δόμεναι, ἰέναι have old case-endings of obscure origin; they may be datives.

FEMININE NOUNS

I.E. had no fixed suffixes or endings to denote male or female sex; e.g. πατήρ and μήτηρ have the same suffix. There were I.E. feminine nouns with *e*, *o* suffixes (see the list of stems, p. 47), Gk. ἡ φηγός, ὁ and ἡ ἵππος, L. *fāgus* (fem.) correspond to I.E. originals. I.E. had feminine stems in *-ā-*, *-i̯ā-*, *-ə-*, *-i̯ə-*, and others. Examples: I.E. *seno-s* 'old', fem. *sen-ā*, Gk. ἕνο-ς, fem. ἕν-ᾱ, Attic ἕνη. Gk. φέρουσα is for φέροντ̯α, Doric has φέρωσα, Lesbian φέροισα. Common types of fem. nouns are seen in ἡμέρ-ᾱ, ἡδον-ή with Attic η for ᾱ, L. *togă* older *togā*; *audāciă* and δόξᾰ represent I.E. *-i̯ə*.

COMPOUND NOUNS

Compound nouns were regularly formed in I.E. with the inflexion of the second element alone which was a noun or adjective, never a verb. I.E. *n̥-gnōto-s*, Skt. *a-jñātaḥ*, Gk. ἄ-γνωτο-ς, L. *i-gnōtu-s* for *en-gnōto-s*. λογο-γράφο-ς 'prose-writer', λυσί-πονο-ς 'labour-lightening'. I.E. types of proper nouns survive in Εὐρύ-νομο-ς and the usual Gk. names.

Gk. has *-ĭ*, e.g. *πατρ-ί*, *φύλακ-ι*; this is probably the weak ablaut form of *-ei*, cf. *πείθω*, *ἔπιθον*; but many scholars regard it as an old locative doing duty as a dative.

Instr. sing.: various endings; I.E. *-ĕ* in Skt. *pitr-ā* 'father', and L. abl. *-ĕ* as in *patr-ĕ* originally an instrumental form; but some regard this L. *-ĕ* as an old locative in *-ĭ*; for final *ĭ* becoming *ĕ* cf. *mar-e*, but *mari-a*, *mari-um*.

Loc. sing.: *-ĭ*, or no ending, Gk. *αἰεί* for *αἰϝεσ-ί* 'always', dial. *αἰϝές* and *αἰϝέν* (*αἰέν*) show locatives without an ending from *-es-* and *-en-* stems; aor. infin. (dial.) *δόμεν*. Lat. has *-ī*, e.g. *Karthagin-ī*, perhaps from a longer ablaut form *-ei* (*ī* = *ei*). We have seen that some regard the ablatives *patr-ĕ*, *homin-ĕ* as old locatives in *-ĭ*.

Case-endings: Plural

Nom. plur.: *-ĕs*. I.E. *māter-es*, Skt. *mātar-aḥ*, Gk. *μητέρ-ες*, *φύλακ-ες*. N.B. L. *-ēs*, e.g. *duc-ēs*, is not inherited from I.E., but borrowed from the stems in *-ĭ-*, e.g. *class-ēs* which = *classeies* (*eies* = *ees* = *ēs*).

Voc. plur.: same as nom.

Acc. plur.: *-ns*, *-n̥s*. We have seen that *n̥* became *a* in Gk., *en* in Lat.; *n̥s* = Gk. *ας*, L. *ens* = *ēs*. Gk. *φύλακ-ας*, L. *duc-ēs*, *homin-ēs*, *rēg-ēs*.

Nom., voc., acc. neut. plur.: *-ā*, *-ə*: Gk. *γένε-α*, Attic *γένη*, *ὀνόματ-α*, L. *gener-ă*, *trigint-ā*.

Gen. plur.: *-ŏm*. Skt. *śun-ām* = *κυν-ῶν*. L. *-um* (= *-om*) may come from I.E. *-ŏm* or *-ōm*. Umbrian has certainly *-ŏm* as in *fratrom*, L. *fratrum*, cf. Meillet's *Introd.* p. 257.

Dat. plur.: I.E. had forms in *-bh-* and *-m-* for the three classes of noun stems (I, II, III). Homeric forms in *-φι* = I.E. *-bhi* are used as dat., abl., instr., and loc. sing. and plur., *δακρυό-φιν πίμπλαντο*, *Od.* x. 248, 'with tears', *ἶ-φι* 'with might', &c. This form is seen in L. *classi-bus*, the *i* of *duc-i-bus* is borrowed from the stems in *-i-*, *classi-bus*, &c. Cf. also *no-bis* (L. *b* = I.E. *bh*). For datives in *-m-* cf. Russian *stalám*, dat. plur. of *stol* 'table'.

Loc. plur.: *-su*. Gk. has *-σι*, with *ι* probably on the analogy of the dat. sing., *φύλακ-σι*(*-ξι*), sing. *φύλακ-ι*.

Summary

I.E. Sing.	*Greek*	*Latin*
Nom., Voc. *-s*	*φύλακ-ς*	*duc-s*
Acc. *-m̥*	*φύλακ-α*	*duc-em*
Gen. *-es*, *-os*	*φύλακ-ος*	*duc-is* (for *-ĕs*)
Dat. *-ei*, *-ai*	*φύλακ-ĭ*	*duc-ī* (for *-ei*)
Loc. *-i*		Abl. *duc-ĕ*
I.E. Plur.		
Nom., Voc. *-ĕs*	*φύλακ-ες*	[*duc-ēs* (anal. *classēs*)]
Acc. *-ns*, *-n̥s*	*φύλακ-ας*	*duc-ēs* (for *-ĕns*)
Gen. *-ŏm*	*φυλάκ-ων*	*duc-um* (for *-ŏm*)
Dat. / Instr. *-bh-*, *-m-*	Loc. *φύλακ-σι*	*duc-i-bus* (with *i* from *classi-bus*)

N.B.—New formations are bracketed [ ].

II. STEMS IN *-ā-*, *-ə-* (IN ABLAUT WITH *ā*); *-ē-*, *-ə-* (IN ABLAUT WITH *ē*)

These were mostly feminine in I.E. In Gk. and Lat. they became masculine when they denoted male beings and in Gk. they took on *-ς* for nom. sing. and borrowed the ending of the gen. sing. from the *-o-* nouns. L. *agricola* was originally an abstract noun meaning 'farming', then it became masculine, that is, it required the masculine form of the adjective, e.g. *bonus agricola*. Gk. *νεανί-ας* 'a young man', was first *νεανί-ᾱ* 'youth' = 'youngness'; having become masculine, it and its fellows took on *-ς* from the *-o-* declension, e.g. *δοῦλο-ς*, and formed their gen. in *-ου*, like *δούλ-ου*; so too *ναύτ-η-ς* (for *-ᾱ-ς*), *ναύτ-ου* but L. *naut-a*, *naut-ae*.

CHAPTER IX

NOUNS AND ADJECTIVES: CASES

In I.E. case-endings were added to the stem, and it is not always easy or possible to detach them, as contraction was frequent. Occasionally there was no case-ending, but only the pure stem, e.g. in the nom. sing. of *-ā* nouns, *χώρα*, *aquila*, the voc. sing. of *-o* nouns, *λόγε*, *domine*, the neut. sing. of *-es* nouns, *γένος*, *decus*, &c.

In the following sections the dual number will not be discussed as the I.E. forms can be only partially determined and 'only one, the nom.-acc. of *-o* stems, is certainly reflected in Greek' (Buck, *Comparative Grammar of Gk. and Lat.*, p. 172). Dual forms appear in L. *ambō*, *duo*, and there are still traces to be found in other I.E. dialects, e.g. Welsh; see Morris-Jones, *Welsh Grammar*, p. 194.

Some case-endings are seen in all the declensions, e.g. nom. sing. *-s* in *νεανία-ς*; this *s* was borrowed from the *-o* nouns, e.g. *δοῦλο-ς*; *-m*, *-η* (acc. sing.) in *λόγο-ν* (*ν* for *μ*), *φύλακ-α* (*α* = *η*), *regnu-m*, *duc-em*, *mensa-m*, &c. It is best to divide noun-stems as follows: I stems (themes) *not* ending in *ă*, *ĕ*, *ŏ*. II stems (themes) ending in *ā*, *ē*, *ə*. III stems ending in *ĕ*, *ŏ*.

There was a special ending to denote neuters in the nom., voc., acc. sing., and another for the plur. For these three cases in the plur. I.E. used an old collective neut. sing. in *-ā*, *-ə*. Because the neut. plur. was in origin a *singular* noun, I.E. verbs were used in the sing. when the subject was neut. plur. This use survived in Gk., cf. *τὰ δῶρά ἐστι καλά*, and in Aryan and Baltic: in Baltic it led to the disappearance of the 3rd pers. plur. of verbs; for a different use of sing. verb and plur. subject cf. W. *dywedodd y dynion* 'the men said', but *dywedasant* 'they said'. We find collective neut. plur. forms in some nouns that have

no neut. form in the sing., e.g. *loca* and *loci*, with difference of meaning, are used as the plur. of *locus*; *σταθμός*, *σταθμοί*, and *σταθμά*; *μηρός*, *μηροί*, and *μῆρα*.

I. STEMS NOT ENDING IN *-ă-*, *-ĕ-*, *-ŏ-*

I have not discussed *-i-*, *-u-* stems, as they are too complicated for our purpose owing to vowel variation and other causes.

Case-endings: Singular

Nom. sing.: *-s*, with a long or short vowel (ablaut) preceding; examples, *φύλακ-ς* (*ξ*), *ἀλώπηκ-ς*, but *ε* in the other cases, e.g. *ἀλώπεκ-α*, *ἱστάς* for *ἱστάντ-ς*, L. *duc-s* (*x*), *ferens* for *ferent-s*. Polysyllables in *-r*, *-n* have no ending for the nom. sing.; the long vowel of the nom. sing. masc. and fem. is seen in *πατήρ*, but *πατέρα*, *πατρός*, *δαίμων* but *δαίμονος*. The *-r*, *-n* of the stem fall out in some languages, e.g. Skt. *śvā* 'dog' but Gk. *κύων*, Skt. *mātā*, but Gk. *μήτηρ*, L. *mātĕr* (for *ēr*), L. *homō*, but *hominem* with *n*, Ir. *cū* 'dog', W. *cī* for Celt. *cū*, but *n* in the plur. *cŵn*.

Voc. sing.: no ending, like *δοῦλε*, *domine*, pure stems, *πάτερ*, *γέρον* for *γέροντ*.

Acc. sing.: *-m*, *-η* = *-n*, *-η* in many languages. *φύλακη* gave *φύλακ-α*, *φέροντη* = *φέροντ-α*, L. *duc-em* for *ducη*, *ferent-em* for *-η*.

Nom., voc., acc. neut.: no ending, and a short vowel before *r*, *n* of the stem: Skt. *nāma* 'name', Gk. *ὄνομα* (*α* for *η*), L. *nōmen*, *εὐδαιμον* but masc. fem. *εὐδαίμων*, *γένος*, L. *genus* (for *-os*), *εὐγενές*, but masc. fem. *εὐγενής*.

Gen. sing. and abl. sing.: *-es*, *-os*, *-s*; *-es* in Lat., *-os* in Gk. Skt. *śun-aḥ* = I.E. *kunos* = *κυν-ός*, L. *patr-is* (*-is* for *-es*), *duc-is* (for *-es*), L. *manūs* is for *manou-s*. Note the (dial.) Lat. forms in *-us* (= *-os*), *Castor-us*, *Caesar-us*.

Dat. sing.: *-ei*, *-ai*; Skt. *pitr-e* (*e* for I.E. *ei*) = L. *patr-ī* (for *-ei*), *recei* = *rēgī* is found on an early Lat. inscription.

Case-endings: Singular

Nom. sing.: no ending, the pure stem *-ā, -ə*, is used. *χώρ-ᾱ, φέρουσ-ᾰ* for *φέροντι̯ᾰ, ἀγαθ-ή* (for *-ᾱ*); L. *tubă* for earlier *tubā, plantă* (for *-ᾱ*), &c.

Voc. sing.: pure stem. *χώρᾱ*; short *ᾰ* in *δέσποτα* and others in *-ης* for *-ᾱς*. N.B. Masc. nouns in Gk. drop *-s*, e.g. *νεανίᾱ, ναῦτ-ᾰ*.

Acc. sing.: *-m*. *χώρᾱ-ν* (for *-m*), L. *tubă-m* for earlier *tubā-m*.

Gen. sing. and abl. sing.: *-es*. *χωρᾱ + ες = χώρᾱς, δοξᾰ + ες = δόξᾱς*, Attic *δόξης*. Remains of this gen. are seen in L. (*pater*) *familiās*; but the usual L. gen. ending was *-ae* for earlier *-āī*, which borrowed its *ī* from the *-o-* stems *domin-ī, puer-ī*, &c.

Dat. sing.: *-ei, -ai*. *χωρᾱ + ει = χώρᾱι (χώρᾳ), δοξᾰ + ει = δόξᾱι*, Attic *δόξηι, δόξῃ*. L. *tubā + ei = tubāi = tubae*.

Case-endings: Plural

Nom. Plur.: *-es, ᾱ* of the stem + *es = ās*, seen in Skt. *-āḥ*, Osc. *-as*. Skt. *kāntāḥ* fem. plur. of *kāntaḥ* 'beloved', Osc. *scriftas* = L. *scriptae*.

Gk. and Lat. discarded this ending, and took *-ai* from the pronominal adjectives, e.g. the article, Homeric *ταί*, Attic *αἱ*, L. *is-tae*.

Acc. plur.: *-ns, χώρᾱ-νς = χώρᾱς*, L. *tubā-ns = tubās*. Remember that in Gk. *-ης = -ᾰς, -ᾰνς = -ᾱς, φύλαξ, φύλακᾰς*, but *φυλακή* (Attic *η* for *ᾱ*) *φυλακᾱ́ς, δόξα, δόξᾱς*.

Gen. plur.: *-ŏm*. But Gk. and Lat. borrowed *-sŏm* from the pronominal adjectives; *χωρᾱ-σων = χωρᾱ-ων* = Attic *χωρῶν*, Doric *-ᾶν*, Ionic *-έων* for earlier *-ήων*, itself for *-ᾱων*; *δοξῶν, δοξᾶν, δοξέων*. L. *-āsŏm = ārum, tubārum, mensārum*, &c.

Dat. plur.: Gk. and Lat. have *-ais* in imitation of the

-o- stems *λύκοις, puerois* (= *-īs*). *χώραις*; L. dat. and abl. *tubais = tubīs, plantais = plantīs*, &c.

Stems in *-ē-* are seen in L. *diē-s, rē-s faciē-s*. Their declension is complicated; *ē* alternates with *ĕi, ĕu*. Cf. Gk. *Ζεύς = Ζηύς*, acc. *Ζῆν*. L. *diēs* for I.E. *di̯ēus, rēs* for *rēis*.

Summary

I.E. Sing.	*Greek*	*Latin*
Nom., Voc. no ending	*χώρᾱ*	*tub-ă* (for *-ᾱ*)
Acc. *-m*	*χώρᾱ-ν*	*tubă-m* (for *-ām*)
Gen. *-es*	*χώρᾱς* (for *-āες*)	[*tubae* (for *-āī*)]
Dat. *-ei, -ai*	*χώρᾱͅ* (for *-āει*)	*tubae* (for *-āĭ* = *āei*)
		[Abl. *tubā* (for *-ād*)]
I.E. Plur.		
Nom., Voc. *-es*	[*χῶραι*]	[*tubae* (for *-ai*)]
Acc. *-ns*	*χώρᾱς* (for *-āνς*)	*tubās* (for *-āns*)
Gen. *-ŏm*	[*χωρῶν* (for *-āων*)]	[*tubārum* (for *-āsŏm*)]
Dat. *-bh-, -m-*	[*χώραις*]	[*tubīs* (for *-ais*)] also Abl.

N.B.—New formations are bracketed [ ].

Greek has an old locative ending in *-σι* (from I.E. *-su*), seen in *χώραισι*. Latin has I.E. *-bh-* in *deā-bus* (for *-bhos*), &c. The Lat. abl. sing. was on the analogy of the *-o-* stems with their abl. in *-ōd*.

III. STEMS IN *-ĕ-, -ŏ-*

Stems in *-ĕ-, -ŏ-* which are the same as the thematic vowel seen in *λέγε-τε, λέγο-μεν, ἔφερο-ν, ἔφερε-ς*. It is not easy to separate the thematic vowel from the endings. The endings are in the main the same as those for Classes I and II. I.E. used this *-ĕ-, -ŏ-* stem for masc. and neut. adjectives, as it used *-ᾱ-* stems for fem. adjectives.

Case-endings: Singular

Nom. sing.: *-s.* *λόγο-s, dominu-s* (for *-os*), *fāgu-s.*

Voc. sing.: no ending, pure stem in *-e*, *δοῦλε, domine.*

Acc. sing.: *-m.* *λόγο-ν* (for *-m*), *dominu-m* (for *-om*).

Nom., voc., acc. neut.: *-m.* *ζυγό-ν, iugu-m* (for *-om*).

Gen. sing.: *-s̥io*=Gk. *-ιο, -ο*; some dialects retained *-οιο*, e.g. Hom. *ἀνθρώπο-ιο*, others have *-οο* which in Attic and Ionic became *-ου*, Doric *-ω*, *λύκοιο, λύκου, λύκω.* N.B. Lat. and Celt. have a gen. in *-ī* with no stem vowel preceding it, as in Gaulish *Segomar-i* gen. of *Segomaros*, L. *domin-ī.* In the oldest Irish we find *maqi* 'of the son', gen. of the word now written *mac*, W. *mab* for *map.* Lat. added this *ī* to *-ā-* stems to form their gen., *tubā*+*ī*=*tubāī*=*tubai*=*tubae.*

Dat. sing.: *-ei, -ai.* *λυκο-ει*=*λύκωι* (*λυκῳ*), *domino-ei*=*dominōi*=*dominō.* An old Lat. inscription has *Numasioi*, class. L. *Numerio*, 'for N.'; this may be for *Numasiōi* or *Numasiŏi.*

Abl. sing.: ending in *-ōd, -ēd.* Here we cannot separate the stem from the ending; the *-d* may be the remains of an old adverb=L. *dē* 'from'. Cf. early L. *Gnaiuod*=*Gnaeō*; in Lat. final *d* dropped after a long vowel; so we get the usual abl. in *-ō*, *dominō, puerō*, &c. Lat. extended this *-d* abl. to other declensions, e.g. the *-ā-* stems, cf. inscriptional forms *magistratud, airid* from *aes.*

Instr. sing.: ending in *-ē, -ō.* Cf. L. *certē, rectē*; but these may be *ablatives* in *-ēd* in ablaut with *-ōd*; forms like *facilumed* (inscr.) show that at least some of the Lat. adverbs in *-ē* were old ablatives. Gk. adverbs in *-ως* probably represent old ablatives with loss of *d* and addition of *s*, *οὕτω, οὕτως, καλῶς, σοφῶς.* Remains of I.E. instrumental cases are seen in *πώ-ποτε*, Doric *πή-ποκα.*

Loc. sing.: *-i.* *οἴκο*+*ι*=*οἴκοι* 'at home'; *ἐκεῖ* and (dial.) *οἴκει* have *ε* not *ο* as stem vowel. The oldest Lat. forms of the loc. have *-ei*, never *-oi*, showing that the

stem vowel was *e* not *o*, e.g. *Delei* 'at Delos'. The *-i* of the loc. in the classical period might represent earlier *-ei* or *-oi*, *Corinthi* 'at C'.

Case-endings: Plural

Nom., voc. plur.: *-es*, contracting with the stem vowel *ŏ* to *-ōs.* Skt. *vṛkāḥ*, Goth. *wulfos* 'wolves'. Umbrian *Ikuvinus* 'the people of Iguvium', L. *Iguuini*, Osc. *Nuvlanus*=L. *Nolani* 'the people of Nola'. But Gk. and Lat. independently of one another borrowed *-oi* from the pronominal adjectives, *λύκοι, lupi* (for *-oi*).

Acc. plur.: *-ns.* In Attic Greek *-ονς*=*-ους*; L. *-ons*=*-ōs.* *ἵππο-νς* (dial.), *ἵππους*, Doric *ἵππως*, Lesbian *ἵπποις* (all for *-ονς*).

Nom., voc., acc. plur. neut.: *-ă* (for *ə*), See p. 52. *πλοῖα, regnă.*

Gen. plur.: *-ŏm.* *λυκο*+*ων*=*λύκων, uiro-ŏm*=*uirum* (for *-om*). But Lat. borrowed *-ōsom* from *-āsom* of the *-ā-* declension, changing *ā* to *ō*, *tubāsom*=*tubārum, lupōsum*=*lupōrum.*

Dat. plur.: Gk. and Lat. have *-ois* for earlier *-ōis*, perhaps the *o* of the stem contracted with *-ois.* These forms also served as ablatives in Lat. *λύκοις, lupīs* (for *-ois*). These are certainly old instrumentals. Greek had also datives in *-σι* from old locatives, I.E. *-su*, *λύκοισι, λόγοισι.* I.E. had datives in *-bh-*, *-m-*, cf. Ir. *feraib*, dat. plur. of *fer* 'man', W. *gŵr.*

The *-ī* of the Lat. gen. sing. is peculiar to Lat. and Celtic.

Greek, Latin, and other I.E. languages show endings that may represent other I.E. cases or post-positive particles loosely connected with the I.E. case-system, that is, not definitely incorporated in the I.E. declensions. Examples: *-tos* 'from', in Gk. *ἐκ-τός*, L. *fundi-tus*; *-dhi*, Gk. *-θι, οὐρανόθι* 'in heaven'; *-dhe* 'from', *οἴκοθε(ν), ἔν-θε(ν), ἔν-θα* for *en-dhn̥* in ablaut with *ἔν-θεν, -de* 'to' in

οἰκόν-δε, *Ἀθήναζε* for *Ἀθήνᾱς* acc. plur. + δε. Gaulish *βρατου-δε* 'e iudicio' with δε = O.W. *di* 'from', *βρατου* = W. *brawd*, as in *dydd brawd* 'day of judgement'.

Summary

I.E. Sing.	*Greek*	*Latin*
Nom. *-s*	δοῦλο-ς	*dominu-s* (for *-os*)
Voc. no ending	δοῦλε	*domine*
Acc. *-m*	δοῦλο-ν	*dominu-m* (for *-om*)
Gen. *-s̯o, -ī*	δούλοιο, δούλου	*domin-ī*
Dat. *-ei, -ai*	δούλῳ (for *o*-ει)	*dominō* (for *o* + *ei*)
		Abl. *dominō* (for *-ōd*)
I.E. Plur.		
Nom. *-es*	[δοῦλοι]	[*dominī* (for *-oi*)]
Acc. *-ns*	δούλο-νς, δούλους	*dominōs* (for *-ons*)
Gen. *-ŏm*	δούλων	[*dominōrum* (*-ōsŏm*)]
Dat. *-bh-, -m-*	[δούλοις]	[*dominis* (for *-ois*)] also Abl.

N.B.—New formations are bracketed [ ].

COMPARISON OF ADJECTIVES

The chief I.E. stems for comparative and superlative adjectives were those with the following suffixes: *-iĕs-*, *-iŏs-*, *-is-* (ablaut); *-isto-* (for superl.); *-tero-* (comp.), *-tɪmo-* (superl.), *-sɪmo-* (superl.). Examples: L. *mel-ios* = *mel-ius*; *mel-iōsem* = *meliōrem*; the form with *-is* occurs in *mag-is*. Gk. ἥδ-ισ-τος; ἡδίων for ἡδίσων, ἡδίω acc. sing. is for ἡδίοσα = ἡδίοα = ἡδίω. For *-tero-s* cf. κουφό-τερο-ς; the ω of σοφώ-τερος and the αι of παλαί-τερος, μεσαί-τερος probably originated in regularly formed comparatives like ἀνώ-τερον, παλαί-τερον from ἄνω and πάλαι. For *-mo-* superlatives cf. L. *pluri-mu-s*; *-tɪmo-* L. *ul-ti-mu-s* (for earlier *ultamos*). L. *-issimus* is from *-is-sa-mo-s*; *-sɪmo-* is also

seen in early W. *-haf*, e.g. *tromhaf* fem. 'heaviest'; *tecaf* superl. of *teg* 'fair' = *teghaf*. The Gk. superl. *-τατος* contains the *-tɪ-* of *-tɪmo-* and the *-to-* of *-is-to-*; *-isto-* is also seen in E. *sweetest*.

CHAPTER X

DEMONSTRATIVES AND PRONOUNS, ETC.

To denote *this, that*, I.E. had a stem *sŏ-*, *sā-* used in the nom. sing. masc. and fem., and another *tŏ-*, *tā-* for all the other cases sing. and plur. as well as nom. sing. neut. These forms are seen in Skt. *să*, *sā*, Gk. ὁ, ἡ (Attic η for ᾱ); *t* in all the other cases, Skt. *tă-*, *tā-*, Gk. *το-*, *τη-* (Attic η for ᾱ). N.B. The Homeric forms *τοί*, *ταί* are earlier than *οἱ*, *αἱ*, which are imitations of ὁ, ἡ. These supplied Gk. with its definite article; but they were also used as pronouns in certain combinations, e.g. ὁ δέ, τὸ καὶ τό 'this and that', and also as relatives.

This, here, near me was expressed by a stem *k-* that appears in L. *hĭ-c* = *ho-ce*, *hun-c* = *hom-ce*, *ci-trā*, *ec-ce*, *cĕ-do*.

Another demonstrative is seen in L. *i-s*, *i-d*, *eum* for *ei̯o-m*, and another in the O.L. *ollus* = *ol-no-s*, *ōl-im*, *ul-trā* for *ol-trā*. The relation of *ille* to *ollus*, *olle* is not clear.

I.E. had a relative stem *i̯o-*, *i̯ā-*, Gk. ὅ-ς, ἥ (Attic for ᾱ); and an indefinite 'any' and interrogative stem $q^{u}ŏ$-, $q^{u}ā$-, $q^{u}ei$-, $q^{u}ĭ$-, which in many of the daughter languages came to be used as a relative. $q^{u}o$- in Skt. *kaḥ* 'who?' = $q^{u}o$-*s*, Gk. *πό-τερ-ος*, *ποῦ*;, L. *quo-d*, E. *what?* $q^{u}ei$- in Ir. *cia*, W. *pwy* 'who?'; $q^{u}ĭ$- in Gk. *τίς*, *τί* for *τί-δ*, L. *qui-d*. L. *qui*, *quae* are for *quo-ī*, *quā-ī*.

The Gk. stem *τιν-* perhaps originated in an old acc. sing. *τί-ν*, *a* being added to this on the analogy of *φύλακ-α*, &c., and other cases formed from *τιν-*, e.g. *τίν-ος*, *τίν-ες*, &c.

τέ-ο=τοῦ is a regular formation from $q^{u}e$-, τέ-σο=τέ-ο, τῷ is formed on the analogy of τοῦ.

The inflexion of these demonstratives, &c., was in many respects like that of nouns and adjectives; for differences cf. *-d* added to neut. sing., τό for τό-δ, L. *is-tu-d=is-to-d*, *quo-d*, *qui-d*, *aliu-d*, Gk. ἄλλο for ἄλλο-δ, and the absence of *-s* in the nom. sing. of *-o-* stems, e.g. ὅ, not ὅς; also *-ī* in *quo-ī*=L. *qui* and *quā-ī=quae*. The nom. plur. *-oi* of τοί, &c. was borrowed by Gk. and Lat. for the *-o-* noun stems to replace I.E. *-es* (see p. 59), e.g. δοῦλοι, *dominī* (for *-oi*). Oscan reversed the process and transferred the *-es* noun-ending to the pronominal stems, cf. Oscan *pūs*= L. *quī* nom. plur. N.B. The ending of the gen. plur. fem. *-sŏm* seen in Skt. *tā-sām=τάων*, Attic τῶν, Doric τᾶν, was adopted by the *-ā-* stems in Gk. and Lat.; e.g. χωράων=χωρῶν=χωρᾶν, L. *mensārum* for *mensā-som*. See p. 56.

PERSONAL PRONOUNS

These vary in different I.E. languages, but have several peculiar features in common. Their forms often changed, as they influenced one another and borrowed endings from demonstratives and nouns. Note the following peculiarities (see Meillet's *Introduction*, p. 293):

The use of different words (1) for sing. and plur., e.g. ἐγώ, ἡμεῖς; L. *ego*, *nōs*; W. *mi*, *ni*; E. *I*, *we*; Germ. *ich*, *wir*; (2) for nom. and the other cases, e.g. ἐγώ, ἐμέ, ἐμοί; L. *ego*, *mē*, *mihi*; E. *I*, *me*, *we*, *us*. There is no indication of gender. Their inflexion is unlike that of the nouns and demonstratives. They have distinct accented and unaccented forms, cf. ἐμοί, μοι. Note the difference between the infixed and the other pronouns in Welsh, e.g. *gwelaf hwy* 'I see them', *nis gwelaf* 'I do not see them', the *s* of *nis*='them'.

I.E. had personal pronouns for the 1st and 2nd pers. sing. and plur., but not for the 3rd pers.; here demonstratives were used, e.g. L. *is*, Gk. οὗτος, &c. I.E. had the same reflexive pronoun for all persons and numbers; the restriction of L. *sē*, *suus* to the 3rd pers. is not of I.E. origin; Russian still uses *svoi*, the equivalent of *suus*, Gk. ἑός, for all persons sing. and plur., meaning *my own*, *his own*, *our own*, &c.

Descendants of the I.E. pronouns are seen in ἐγώ, L. *egō*, classical *egŏ*, Goth. *ik*, E. *I*, Germ. *ich*. Acc., &c. ἐμέ, με; *mē*, *mihi*; abl. *mē*, for older *mē-d*. Plur. I.E. *me* seen in Lesbian ἄμμε; another word is seen in E. *we*; other forms in L. *nōs*, W. *ni*, E. *us*.

For the 2nd pers. sing. I.E. had stems in *teu̯e-*, *tu̯e-*, *tu̯o-*, &c.; Gk. σύ, τύ-νη, L. *tū*, Ir. *tū*, W. *ti*, E. *thou*, Germ. *du*. An emphatic dative was formed in I.E. by adding a *-bh-* formation, Skt. *tubhyam*, L. *tibi*, Mod. Russian *tyebyé*. For 2nd pers. plur. I.E. used *i̯ūs* found in Lesbian ὔμμες= ὕσμες.

W. *chwi*, Ir. *sī* come from I.E. *su̯ēs*. The endings of ἡμᾶς, ὑμᾶς, ἡμῶν, ὑμῶν are borrowed from the nouns.

The reflexive stem was I.E. *seu̯e-*, &c. seen in Gk. ἕ=ϝε, gen. ἕο, οὗ, dat. σφί, L. *sē*, *si-bī*, L. *sē-(d)* an abl., L. *suus* for *soi̯o-s*.

CHAPTER XI

NUMERALS AND UNINFLECTED WORDS

NUMERALS

In I.E. the usual method of counting was by *tens*, but traces of other systems still survive in the languages derived from it. The words for 1, 2, 3, 4 were inflected, those for 5–10 were indeclinable. For 10–19 composite forms were used; here the derived languages show considerable variety, but the word for 10 is the usual foundation and the resulting numeral may be a compound word

like *thirteen* and W. *pymtheg* '15', or a series of independent words like W. *tri ar ddeg* '13', '3 on 10'. Most of the I.E. dialects, e.g. Gk., Lat., Eng., have separate words to denote the tens from 20 to 90, and the intervening numbers 21, 32, &c. are formed by the addition of the words for 1–9, e.g. 22 is εἰκοσιδύο, δύο καὶ εἴκοσι, L. *duo et uīgintī, uīgintī duo*, E. *twenty-two, two and twenty*.

Traces of counting by *nines* are seen in Celtic, cf. W. *deunaw* '18', '2 nines'; cf. the Roman method of starting afresh after 17, *septendecim, duodēuīgintī, undēuīgintī* and the occasional occurrence of forms like Gk. ἑνὸς δέοντες εἴκοσιν '20 lacking one' on an Attic inscription; but this reckoning by subtraction is not enough to attest a style of counting by *nines*. An arrangement by *twenties* is seen in Welsh which has no single word for 30, 50, 70, 90, but adds 1–19 to the words for 20, 40, 60, 80, which are themselves multiples of the word for 20; in Welsh 20=*ugain*, 30=*deg ar hugain*, 40=*deugain* 'two twenties', 50=*deg a deugain*, also *hanner cant* 'half a hundred', 60=*trigain* 'three twenties', 80=*pedwar ugain* 'four twenties'; so too, but not quite so systematically, in Breton and Cornish; cf. too the French numbers after 60; 70 = *soixante-dix*, 80 = *quatre-vingts*, 90=*quatre-vingt-dix*, although Old French had also *septante* which is still used to denote the *Septuagint* version of the *Old Testament*, *oitante* and *nonante*. Cf. E. *four score*, &c.

Other I.E. languages display a new way of counting after 60; Greek has ἑβδομήκοντα for 70, formed from the *ordinal* ἕβδομος, not from the cardinal ἑπτά, L. *nōnāgintā* from *nōnus*, not *nouem*, while πεντήκοντα and *quinquāgintā* are formed from πέντε and *quinque*. Indo-Iranian uses abstract nouns for 60, 70, &c.; some Germanic dialects have a new type beginning at 70 and use the inherited I.E. word for 100 to denote 120; in my youth *cant o afalau* meant '120' not '100 apples'; W. *chweugain* 'six twenties' is still used for 'ten shillings', 6 × 20 pence.

This points to an arrangement of numbers in groups of *sixty*.

Remains of a division into *twelves* unfortunately still remain in the method of splitting up the shilling into 12 pence, the foot into 12 inches, and the day into halves of 12 hours; cf. the frequent use of *gross* and *dozen*, and note that the 'teens' begin after *twelve*.

Some of the above methods probably belong to languages which were abandoned by groups that adopted I.E. as their current speech.

A glance at the following list of numerals in six modern I.E. dialects is enough to suggest that they are derived from one parent language.

Mod. Greek	*Italian*	*Welsh*	*English*	*Albanian*	*Lithuanian*
ἕνας	uno	un	one	ńe	vënas
δυό	due	dau	two	dü	du
τρεῖς	tre	tri	three	tre	trys
τέσσερις	quattro	pedwar	four	katre	keturi
πέντε	cinque	pump	five	pese	penki
ἕξι	sei	chwech	six	ǵašte	szeszi
ἑφτά	sette	saith	seven	štate	septyni
ὀχτώ	otto	wyth	eight	tete	asztuni
ἐννιά	nove	naw	nine	nende	devyni
δέκα	dieci	deg	ten	diete	deszimt

It will be seen that the Mod. Gk. and Ital. numerals differ very slightly from the ancient Gk. and Lat. equivalents.

The I.E. words for 1–10 were: *oinos, duu̯ōu, treies, q^{u}etu̯ores, penq^{u}e, su̯eks, septm̥, oktōu̯, neu̯n̥, dekm̥*.

I.E. had another word for 'one', *sems*, seen in Gk. εἷς = ἕνς = *sems*. I.E. *oinos* appears in Gk. οἰνή, the figure 1 on a die, 'the ace'.

Note on the word for 'five'. The *p* in Skt. *pañca*, Gk. πέντε, Alb. *pese*, Lith. *penki* implies a *p* in I.E.,

penq^{u}e, not *q^{u}enq^{u}e* as suggested by L. *quinque* and W. *pump*. Italic and Celtic (cf. Ir. *cōic*) changed *penq^{u}e* to *q^{u}enq^{u}e*.

As I.E. *s* before a vowel became *h* in Welsh, cf. *hen*, 'old', from I.E. *senos*, the *s* in *saith*, 'seven', is puzzling. Perhaps the original *s* (seen in Ir. *secht*) was deliberately retained to emphasize the distinction between the Welsh words for 7 and 8; in Old Welsh they would normally have been *heith*, *oith*.

There are numerous other points of interest in the form and use of the numerals: the remains of the dual number in δύω, L. *ambō*, ὀκτώ; the various constructions employed, e.g. the apparent singular in W. *pedwar dyn* '4 men', not the plural *dynion* 'men', cf. *ten stone*, *six foot*; the rule in Russian that 'after the words for 2–4 the noun is put in the gen. sing.', really an old dual, and that 'the Russian words for 5, &c. require the gen. plur.'; the correspondence between W. *un ar ddeg* 'one on ten', and Old Bulgarian *jedinъ na desęte* 'one on ten'=11 in both cases; the declension of the words for 1–9 in Lithuanian with its six cases.

Many of the indeclinable words in the I.E. languages bear traces of old case-endings. Adverbs and prepositions frequently contain forms of great antiquity; there was no locative case in Greek, but adverbs like οἴκοι 'at home', ἐκεῖ 'there', and the preposition περί are old locatives in *-ι*. πω and Homeric τῶ 'therefore', are old instrumental case-forms. L. *rectō*, *meritō* are old ablatives. Some adverbs and prepositions are old nominatives that became indeclinable; L. *uersus* 'towards' was certainly once the perf. part. meaning 'turning' or 'turned'. Old accusatives survive in L. *clam* 'secretly', *partim* 'in part'.

CHAPTER XII

THE I.E. VERB: STEMS

[See the admirable exposition in Meillet, *Introduction*, c. V.]

I.E. had no *systematically* conjugated verb; there was no full and coherent scheme as presented by some 'regular' verbs in Greek or Latin. Given any one form of λύω or, better still, *laudo*, any other form can be immediately deduced; e.g. if ἐλύσατε is known, any one who knows Greek grammar can produce the 1st pers. plur. of the aorist subjunctive passive or the perfect infinitive active. So too *laudāte* or *laudātūrus* suggests *laudārētur* or *laudā-biminī*, as there is a recognized connexion between all the forms of the conjugation when the verb is 'regular' The reason for this uniformity is that the Latin verb-system is the result of a remodelling of the Latin verb according to a definite and coherent scheme. Except in a few cases (e.g. λύω) the Greek verbs were not so drastically treated and there is a far greater variety in the tense-stems; that is why there are so few really 'regular' verbs in Greek.

In I.E. verbs there was no system at all, no 'regular' conjugations, nothing but groups of stems (themes) loosely connected by the meaning as expressed in the base (root). Each tense was a unity with its personal endings, and there certainly was a close connexion between the present and the imperfect due to the use of the same stem. This lack of systematization is clearly seen in the Greek verbs, but even these have been reduced to some order by the workings of analogy and the creation of new tenses, e.g. the aorist passive in *-θην*. The 'irregular' Latin verbs have also to some extent retained the I.E. formations. The knowledge that the present is βαίνω or λαμβάνω or *rumpo* does not help you to discover ἔβην, λήψομαι, or *rūpi*. Take as an instance (Meillet, p. 161) the I.E. base

leiq^u-; Greek and Latin show the following forms of it in the same verb: *leiq^{u}e-*, *leiq^{u}o-* in ἔλειπο-ν, ἔλειπε-ς; *liq^{u}e-*, *liq^{u}o-* in ἔλιπο-ν, ἔλιπε-ς; a stem with an infixed nasal in *linquo*, cf. Gk. λαμβ-άνω, ἔλαβο-ν; a perfect with reduplication *leloiq^u-*, Gk. λέλοιπα; a causative stem with suffix *-eie-*, *loiq^{u}eie-* retained in Skt., for similar formations cf. Gk. *φοβέω* for *φοβέμω* 'I cause to fear'. In I.E. even different bases were used to express the various tenses of the same idea; this accounts for the large number of 'defective' verbs in Greek, e.g. aorists with no present, futures with no aorist, e.g. λέγω, fut. ἐρῶ, aor. εἶπον; the aorist corresponding to εἶμι 'I go' is ἦλθον. Cf. E. *I am, I was, to be*; *I go, I went*; W. *wyf* '*I am*', *bûm* '*I was*'; L. *sum, fui*; *fero, tuli*.

THE STEMS OF VERBS

The endings denoting the persons were in some cases added directly to the root as in ἐσ-τί 'he is', from the root seen in the L. *es-se*. Sometimes the vowel *e* or its ablaut equivalent *o* was added before the ending, e.g. λέγ-ο-μεν 'we say', λέγ-ε-τε 'you say'; this alternating vowel *e*, *o* is called the *thematic vowel* because it forms the *theme* or *stem* of the tense concerned; it is identical with the *e*, *o* seen in λόγ-ο-ς, λόγ-ε (voc. case) and other nouns of the *o* or second declension. *Athematic* tenses are those in which this vowel does not appear, e.g. the pres. indic. of εἰμί 'I am', the pres. indic. of τίθημι 'I place'. It is not correct to call these verbs *athematic verbs*, as some of their tenses do contain the thematic vowel, e.g. the fut. of τίθημι, cf. θήσ-ο-μεν, θήσ-ε-τε. Nor is the thematic vowel found in all the tenses of verbs usually labelled 'thematic'; there is no thematic vowel in the tenses λέλυκα and ἐλύθην, although the pres., imperf., and fut. indic. tenses of λύω are rightly called 'thematic'.

Note the addition of different suffixes to form certain tenses, e.g. λαμβάνω, pres. indic. from the root λαβ- seen in the aorist ἔλαβον; δείκ-νυ-μι 'I show', but δείκ-σω, δείξω, its future without *-νυ-* but with a new suffix *-σ-* to denote the future. Some verbs form their aorists with an added *-σ-* seen in ἔδεικ-σα, ἔδειξα; and some have in Greek a perfect tense containing *-κ-* with a reduplication of the root, e.g. λέ-λυ-κ-α, perfect of λύω.

TYPICAL I.E. STEMS

The following examples are taken from Greek, as Greek kept the I.E. vowels so faithfully.

Monosyllabic I.E. bases (roots): *ei̯-*, *i-*; εἶ-μι, ἴ-μεν, ἰ-τέον; L. *eo* for *ei̯o*, *īre* for *eire*; *es-*, *s-*, εἰμί for ἐσ-μί, ἐσ-τί, L. *es-t*, *es-se*; the 'no vowel' form is seen in L. *s-unt*. *dhē-*, *dhə-*, ἔ-θη-κ-α, *fē-c-i*, θετός instead of θατός (see p. 36), L. *fă-c-tu-s*.

Disyllabic bases, which were very numerous in I.E., are seen in the various forms of I.E. *telə-*: τελᾰμών, τλῆναι, τλητός, τάλας, τέτλᾰθι; I.E. *genə-*: γίγνομαι, γένεσις, γνήσιος, γενήσομαι, γέγονα.

Perfect stems with *oi* in the sing. and *i* in the plur., πέποιθα, πέπιθμεν. Note the reduplication.

Reduplicated present stems, δίδω-μι, μίμνω (cf. μένω), L. *disco*=*di-dc-sco*, *-dc-* is the weak form in ablaut with *dec(-et)*, *doc(-et)*; τί-θημι for θίθημι; γίγνομαι, but ἐγεν-ό-μην.

Reduplicated aorist stems as in ἀγαγεῖν, λελαχεῖν, τεταγών.

Stems in *-s-* in aorists like ἔ-δεικ-σ-α=ἔ-δειξα.

Stems with infixed nasals, i.e. inserted inside the base, L. *tang-o*, but *tac-tus*, *te-tĭg-i* for *tetagai*; *rump-o*, but *rūp-i*; λαμβ-άνω, but ἔ-λαβ-ον; πυνθ-άνομαι, but ἐ-πυθ-όμην.

Many stems in I.E. had *-ske-*, *-sko-* added to them, Gk. διδάσκω for διδάκσκω, L. *disco*=*di-dc-sco*; others had *-k-* as in *fē-c-i*, ἔ-θη-κ-α, but ἔ-θε-μεν.

I.E. STEMS OF THE MOODS

A. In I.E. the *indicative* mood was characterized by the absence of any addition to the tense-stem except the personal ending. The personal endings are added to the pres., aor., or perf. stem, e.g. δίδω-μι athematic, φέρε-τε, φέρο-μεν both with the thematic vowel ĕ, ŏ as part of the pres. stem, ἔ-δεικ-σ-α, base δεικ-, with -σ- suffix for the aor. stem, and α for I.E. η, *e-deik-s-m* = ἔδειξα; λέλοιπ-α, ἔ-λαβο-ν.

B. The *subjunctive* was characterized by the addition of -ĕ-, -ŏ- to the tense-stem, giving the so-called Greek 'short-vowel' subjunctive seen in Homer, &c., τείσ-ο-μεν, τείσ-ε-τε from ἔ-τεισ-α an athematic tense.

C. The *optative* was characterized by the addition of: 1. -i̯ē-, -ī- = -i̯ə- ablaut of -i̯ē- to the athematic stems; 2. -ĭ- to the thematic -e-, -o- tense-stems, e.g. φέρο-ι-μεν 'we may bear'.

D. I.E. had no special stem for the *imperative*. The bare stem was sometimes used, e.g. λέγε, *amā*, *monē*.

In Latin the old subjunctives and optatives were fused into one mood, see p. 71.

MEANING OF THE MOODS IN I.E.

The indicative *asserts* that a thing *is*.

The subjunctive (1) *expects* that a thing *will happen* or (2) *wills* a thing.

The optative regards a thing (1) as *possible* or (2) as *desirable*.

The imperative *commands*.

The above I.E. use of the subjunctive as a *prospective mood* accounts for the Homeric subjunctive with future meaning, e.g. οὐ γάρ πω τοίους ἴδον ἀνέρας οὐδὲ ἴδωμαι, *Il.* i. 262, 'for I never yet saw such men, nor shall I see', as well as for the use of subjunctive forms to create future indicative tenses in Latin, *audiam*, *audies*, &c., *laudabo*, *ibo*, *ero*, *dixero*, &c. Some Greek futures in -ομαι are old subjunctives, e.g. πίομαι, ἔδομαι.

The use of the optative to denote possibility led to the Greek potential optative which in early Greek did not require ἄν or κε, cf. οὐ μὲν γάρ τι κακώτερον ἄλλο πάθοιμι *Il.* xix. 321, 'for indeed I can endure nothing else worse'. The other sense produced the Greek optative of wishing, e.g. μὴ γένοιτο 'may it never happen!'

Examples

Pres. indic.: 1. Athematic: ἵστα-μεν, ἵστα-τε. 2. Thematic: φέρο-μεν, φέρε-τε.

Subjunctive: 1. Athematic, -ĕ-, -ŏ- Hom. ἴ-ο-μεν 'let us go', aor. λύσ-ο-μεν for which Attic used λύσωμεν (analogy of λύωμεν), perf. πεποίθ-ο-μεν, and εἰδ-ο-μεν, εἰδ-ε-τε the regular subjunctives of the perf. οἶδα. The futures ἔδ-ο-μαι, πί-ο-μαι are also subjunctives from athematic stems. 2. Thematic tenses contracted their own -ĕ-, -ŏ- with the -ĕ-, -ŏ- of the subjunctive, producing -ē-, -ō-; e.g. φερο + ο + μεν = φέρωμεν, φερε + ε + τε = φέρητε, &c.; L. *legēs*, *legētis*, &c., old subjunctives, see p. 70.

The Latin subjunctive is a mixture of subjunctive and optative; *sim*, *uelim*, *fēcerim* have the *i* (= ī) of the athematic optative. Latin and Celtic have I.E. forms of the subjunctive with -ā-, e.g. *fer-ā-mus*.

Optative: 1. Athematic, -i̯ē-, -i̯ə- = -ī-, -ĭ-. From the base *es-* seen in ἐσ-τί, L. *es-t*, we get an opt. *es-i̯ē-m* = ἐσίην = εἴην, plur. *es-i̯ə-men* = ἔσῑμεν = εἶμεν. So too early Latin had *siēm*, *siēs* but plur. *sīmus*, *sītis*. 2. Thematic: -ĭ- forming a diphthong with the thematic -o- = *oi*. I.E. *bhero-i-t* = Skt. *bharet* (*e* = I.E. *oi*) = φέροι with final τ dropped.

I.E. had no future indicative tense; the subjunctive, &c., took its place. See p. 78.

Infinitives and participles are of course not 'moods' but nouns and adjectives with verbal functions. See pp. 49–51.

CHAPTER XIII

THE I.E. VERB: PERSONAL ENDINGS, ETC.

Primary endings were used with the present tense indicative and all tenses of the subjunctive; *secondary* endings appeared in the imperfects and aorists of the indicative and in all tenses of the optative. The endings were added to each tense-stem.

PRIMARY ENDINGS, ACTIVE VOICE

I.E. endings	*Greek*		*Latin*
Sing.	*Thematic*	*Athematic*	
1. *-mi, -ō*	*τίθη-μι*	*φέρ-ω*	*leg-o*
2. *-si*	[*τίθη-ς*]	[*φέρεις*]	*legi-s*
3. *-ti*	*τίθη-τι* D.	[*φέρει*]	*legi-t*
Plur.			
1. *-me(s), -mo(s)*	*τίθε-μες* D.	*φέρο-μες* D.	*legi-mus*
2. *-te*	*τίθε-τε*	*φέρε-τε*	*legi-ti-s*
3. *-enti, -onti, -nti*	*τίθε-ντι* D.	*φέρο-ντι* D.	*legu-nt*

D. = Doric, which retained the I.E. forms more faithfully than Attic; Attic had *τίθη-σι* (*σι* = *τι*), *τίθεμεν* with 'movable *ν*', *τιθέᾱσι* with its ending borrowed from the perfect (*λελύκ-*) *ᾱσι*; *φέρουσι* = *φέρονσι* = *φέροντι*.

The square brackets indicate new formations; *τίθη-σι* could not remain in Greek, it would become *τίθηι*, *τίθῃ*; *τίθη-ς* borrowed its *ς* from the secondary ending *-ς* seen in *ἔφερε-ς*. Nor are *φέρεις* and *φέρει* normal developments of I.E. *bhere-si, bhere-ti*; *bhere-si* became *φέρει* with loss of *-σ-* in Greek; as in *τίθη-ς*, the secondary ending *-ς* was added to this *φέρει* to make it look more like a 2nd pers. sing. The 3rd sing. *φέρει* is probably a new formation; *φέρε-τι* would not become *φέρε-σι*, then *φέρει*, in *all* Greek dialects, Doric would retain *φέρετι*; as *-ει* is the 3rd sing. ending even in Doric, some other explanation must be found for *φέρει*; it was perhaps formed on the model of *ἔ-φερε-ς, ἔ-φερε*, therefore *φέρει-ς, φέρει*.

Latin

Legi-s for earlier *lege-s*, *legi-t* for *lege-t*, *legi-mus* for *lego-mos*, *legi-ti-s* for *lege-te* with *-s* added, *legu-nt* for *lego-nt*. As Latin very often dropped final *ĭ* after a consonant, e.g. *tot* for *toti* seen in *toti-dem*, the endings of the pres. indic. in Latin have lost the *-i* of I.E. *-si, -ti, -nti*; several phonetic features of early Latin point to this, and the grammarian Festus (C. 2 A.D.) quotes an old Latin form *tremonti* = *tremunt* 'they fear'. But some scholars regard the Latin endings as borrowed from the secondary endings *-s, -t, -nt* given in the next section.

SECONDARY ENDINGS, ACTIVE VOICE

Secondary endings were used for the imperfect and aorist indicative of I.E. and all tenses of the optative. Where the difference between primary and secondary endings is clear, it is seen in the absence of *-i* from the secondary forms.

I.E. endings	*Greek*	*Latin*
Sing.		
1. *-m*	*ἔ-φερο-ν*	*laudāba-m*
2. *-s*	*ἔ-φερε-ς*	*laudābā-s*
3. *-t*	*ἔ-φερε-(τ)*	*laudāba-t*
Plur.		
1. *-me(s), -mo(s)*	*ἐ-φέρο-μες* D.	*laudābā-mus*
2. *-te*	*ἐ-φέρε-τε*	*laudābā-ti-s*
3. *-ent, -ont, -nt*	*ἔ-φερο-ν (τ)*	*laudāba-nt*

Attic Greek here again used *-με* + movable *ν*. N.B. Greek dropped final *-τ* in ἔφερετ, ἔφεροντ, cf. *μέλι* for *μέλιτ*, but gen. *μέλιτος*; *γάλα* for *γάλακτ*, gen. *γάλακτος*. Final *m* = *ν* in Gk.

The *-t* of L. *laudābāt* &c. is borrowed from the primary endings. Early L. had *-d* for I.E. *-t*.

The endings of the perfect tense are too complicated for discussion here.

PRIMARY ENDINGS, MIDDLE VOICE

I.E. endings	*Greek*
Sing.	
1. *-ai*	λύο-μαι with *μ* added
2. *-sai*	λύε-σαι = λύε-αι = λύῃ
3. *-tai, -ai*	λύε-ται
Plur.	
1. *-medhə*	λυό-μεθα
2. various	λύε-σθε
3. *-ntai*	λύο-νται

Greek poets also used λυόμεσθα = λυόμεθα with *-σ-* perhaps borrowed from the 2nd pers. λύε-σθε. The middle forms were also used as passives in Greek, see p. 77.

Latin recast the whole middle (deponent) and passive verb-system. See p. 67.

SECONDARY ENDINGS, MIDDLE VOICE

I.E. endings	*Greek*
Sing.	
1. *-ām, -ā* (*ɔ*)	ἐ-λυό-μᾱν (Attic *-ην*), with *μ* added
2. *-so*	ἐ-λύε-σο = ἐλύε-ο = ἐλύου
3. *-to, -o*	ἐ-λύε-το
Plur.	
1. *-medhə*	ἐ-λυό-μεθα
2. various	ἐ-λύε-σθε
3. *-nto*	ἐ-λύο-ντο

ENDINGS IN *-r*

Sanskrit had some active and middle forms in *-r*. Italic and Irish have middle and passive forms with *-r* added to personal endings for different persons, e.g. L. *amo-r, fero-r*, or, changing *-m* to *-r*, *laude-r, laudā-re-r*. Ir. *beri-r* 'he is carried', *berti-r* 'they are carried'. British has only an impersonal form in *-r*, e.g. W. *cenir* 'singing goes on or will go on', *dywedir* 'men say', 'on dit', W. *eir* = L. *ītur* 'there is a going', as in *sic ītur ad astra* 'this way to the stars', *rhedir* = *curritur*. It has also in Welsh assumed the functions of a passive with no personal endings, e.g. *gwelir ni* 'we are seen', *gwelir y meysydd* 'the fields are seen'; this *-r* in Welsh is not used for past tenses. The Latin passive system in *-r* probably started with the addition of *-r* to the 3rd sing. middle ending *-to*; *sequitu-r* (*-u-* for *-o-*) is the exact equivalent of ἕπετο with added *-r*, *sequere* = ἕπεσο = ἕπου, and other Latin personal endings were reshaped accordingly, e.g. *laudo* + *r*, *laudāmus* became *laudāmur*, &c., but the 2nd pers. plur. had a different origin; *laudā-minī* may be an old infinitive or the nom. plur. of a participle like *λυό-μενοι*. Forms in *-r* are also found in Tocharic, Hittite, Phrygian, and Armenian.

ACCENT OF I.E. VERBS

According to their place and function in the sentence I.E. verbs were sometimes accented, sometimes not; when unaccented they went closely with other words and shared their accent; compare enclitics like *ποτε* in Greek. This duality survived in Skt. (Vedic Hymns). Traces of both kinds are found in Greek; where the accent of a verb is 'regular', that is, on the penult or antepenult according to the rule illustrated by *ἄνθρωπος, ἀνθρώπου*, it is often due to the accenting of originally unaccented verb-forms which received an accent on the third or second syllable

from the end of the word. Where the accent of a Greek verb is 'irregular', e.g. *λαβέ*, *λαβοῦ*, *εἰπέ*, it usually represents the I.E. accented form of the verb.

THE AUGMENT

The augment is an element *ĕ-* which may be put before those forms of the indicative which have secondary endings. It is only found in one group of I.E. dialects, Aryan, Armenian, and Greek; the other members do not display it. It was probably a dialectic feature in I.E.; note that Indian, Persian, Armenian, and Greek were spoken by peoples living near one another in historical times.

For *ĕ-* cf. Skt. *á-bharat* = *ἔ-φερε(τ)*; for *ē-* cf. Hom. *ἠ-είδη* 'he knew' for *ἠ-ϝείδη*, *ϝειδ-* in ablaut with *ϝοῖδ-(α)*, *ϝίδ-(μεν)*.

In I.E. it contracted with a following vowel, *ĕ* + *ĕ* = *ē*, cf. Skt. *āḥ* = *ās* = D. *ἦς* 'he was' = *e* + *es* + *t* with loss of *τ*. Seeing that *ĕ* was lengthened to *ē* by contraction with another *ĕ* to form the augment, the Greeks adopted the implied parallelism and changed *ă* to *ā*, Attic *η*; *ŏ* to *ω*; *ĭ* to *ī*; *ŭ* to *ū*, as in *ἦγον* (Doric), *ἦγον* (Attic), *ὠλόμην* (*ὄλλυμι*), *ἱκόμην* (*ἱκέσθαι*), *ὗγίαινον* (*ὑγιαίνω*).

The augment was not an essential part of the verb; it was optional in Vedic Sanskrit and Homeric Greek, but came to be the rule in Attic prose. It must have been originally an independent word (meaning 'ago'?). Cf. the W. *rhy*, earlier *ry*, e.g., in '*ef a dylyawd . . . gwneuthur iawn dros y pechawt ry wnaeth*', *Llyfr Ancr. Ll.* 15, 'he was obliged to make atonement for the sin he had committed'. This particle was not confined to past time in Welsh.

THE MEANING OF VERBAL FORMS IN I.E.

The I.E. verb had three numbers, singular, dual, and plural. The finite verb-form was complete in itself, as in

Gk. *φέρομεν* 'we bear', or W. *gwelais* 'I saw', without an independent pronoun to bring out the meaning as in English or French. The only verb-forms that did not contain a subject in themselves were the impersonal verbs in *-r*. In I.E. the 'weather verbs' were personal with a subject implied; e.g. in Gk., *ὗει* does not mean 'rain is falling', 'there is rain', but 'the spirit sends rain'; the subject is sometimes more definitely expressed, e.g. in Gk. *δὲ δ' ἄρα Ζεύς Il.* xii. 25.

I.E. had two voices, active and middle. There were impersonal middle forms in *-r* (see p. 75). The middle voice indicated a personal interest on the part of the subject; this is seen in Gk., *ἄγει* 'he takes', *ἄγεται* 'he takes with, to, for himself', 'he takes home', 'he marries'; *ποιῶ πόλεμον* 'I bring war about' (but I do not actually fight in it), *ποιοῦμαι πόλεμον* 'I am engaged in carrying on war myself'; *λύω* 'I set free', *λύομαι* 'I get some one set free whom I want to be free', 'I ransom', 'I buy off', e.g. my son from the enemy. Often in Greek we can detect no such distinction, e.g. between *εἰμί* and *ἔσομαι*, *ἐσθίω* and *ἔδομαι*, *ὁρῶ* and *ὄψομαι*.

There was no passive in I.E., but middle forms were occasionally used with a quasi-passive meaning; cf. Gk. *φέρομαι* which must sometimes be translated 'I get myself carried'.

Secondary endings in I.E. and Greek did not always denote past time; the I.E. and Greek optative had only secondary endings; the subjunctive in Aryan, but not in Greek, had secondary as well as primary endings.

N.B. The difference between tenses formed from the present and the aorist stem is not that of present and past time, for the imperfect denotes past time. The tense-stems denote different *aspects* of the verb; for a discussion of *aspects* see any good grammar of modern Russian, a language in which these distinctions of *aspect* have profoundly influenced the forms and meanings of verbs and very

frequently lead to the use of different verbs to denote difference of *aspect* in the expression of the same idea.

The present stem (including imperf.) denotes action *going on*, the aorist stem (1) *action completed* with no reference to duration; (2) action regarded by itself with no reference to time, 'timeless aorist'. This 'timelessness' accounts for the use of the Greek word ἀόριστος, 'undefined tense' (χρόνος); cf. ἀόριστος ἀρχή 'a magistracy without a time-limit' (annual, monthly, &c.). The perfect stem denotes *action completed with present result*; ἀπέθανε 'he died', τέθνηκε gives the result, 'he is dead'; ἔγραφε 'he was writing', ἔγραψε 'he wrote', 'he has written', γέγραφε 'he has written, and what he has written still remains', γέγραπται, 'it has been written and is in writing', 'it is written' in the book and is there for all to see it.

There was no future tense in I.E.; future time was expressed (1) by the use of the present indicative as seen in E. *when do you go home?*, and Gk. εἶμι 'I am for going', so 'I shall go'; (2) by the use of the subjunctive as in Homeric Greek (see p. 70); (3) by the use of certain *-s-* formations with desiderative force, denoting a wish; the Greek futures in *-σ-* are from this source, λείψω, &c.

I.E. had no pluperfect tense.

Latin remodelled the I.E. verb-system which it had inherited and created many new tense-formations, e.g. *laudā-bō*, *laudā-bam*, *laudāuerō*, &c.; the Lat. perfect contains I.E. aorists and perfects, *dīxī* = *deic-s-ai* is from an *-s-* aorist stem, cf. Gk. ἔ-δειξ-α; *cecinī* is a reduplicated perfect = *ce-can-ai*; *uīdī* is a perfect without reduplication = *u̯oid-ai*, cf. Gk. οἶδ-α, also a perfect.

Greek built up many new tense-forms, infinitives, and participles, but retained the main frame-work of the I.E. verb. For instance, the aorist passive in *-θην* (ἐλύ-θην) and the perfect in *-κ-* (λέλυ-κ-α) are new formations in Greek, so too the pluperfects (ἐ-λελύ-κ-η, &c.) and the future perfects, e.g. τεθνήξω, γεγράψομαι.

PRINTED IN
GREAT BRITAIN
AT THE
UNIVERSITY PRESS
OXFORD
BY
JOHN JOHNSON
PRINTER
TO THE
UNIVERSITY

1. Short Intro
to the Study of
Comparative Grammar
(IE) by T. Hudson-
Williams
Cardiff: U of Wales
Press Bd
1935